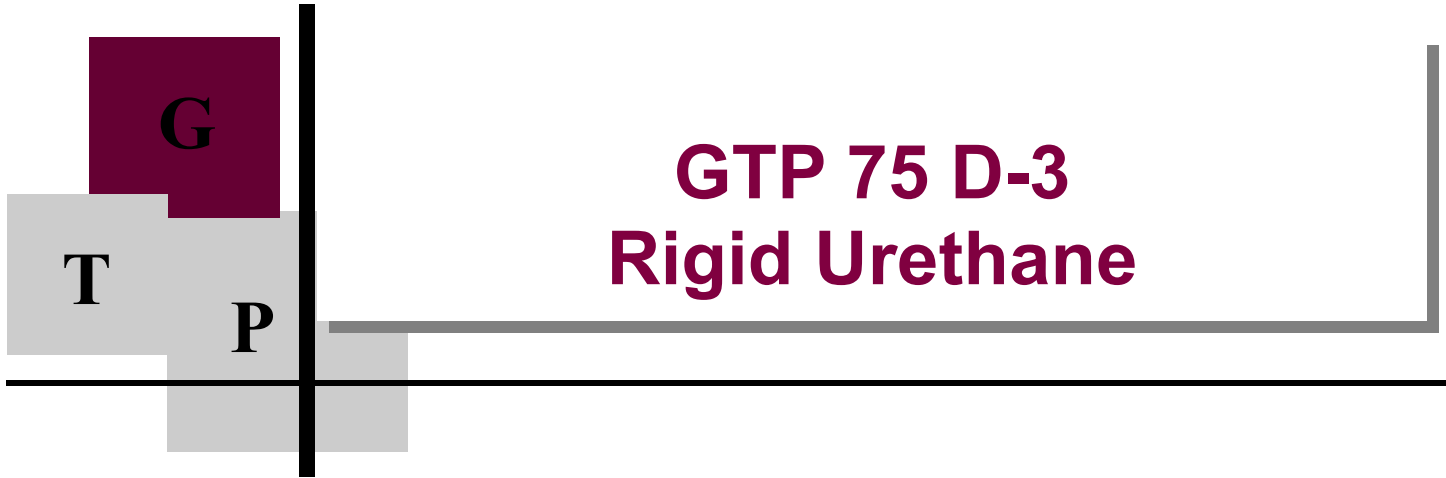


# GTP Urethanes



GT Products inc  
501 Industrial Blvd. Grapevine, TX 76051  
800-221-0866 or Fax (817)421-1211  
[www.gtproducts.com](http://www.gtproducts.com)



## DESCRIPTION

**GTP 75 D-3** is a light tan color Shore D75 polyurethane rotocasting system. Advantages of this system are low viscosity, easy and fast processing (1:1 volume ratio, long gel and quick demold), as well as good physical properties. This formula is a polyether polyol / MDI based extended system. It can easily be pigmented as well as filled with most types of mineral fillers and plastic or glass microspheres. The recommended processing includes: rotomolding, injection molding, open pour.

## STORAGE AND MIXING

Both A and B-components are very stable mixtures. However we suggest re-mixing the B-component at least once a week. Recommended storage temperature is 70-105°F. Store containers tightly closed since this material is moisture sensitive. If properly stored, the shelf life is 6 months or more.

## Working Properties

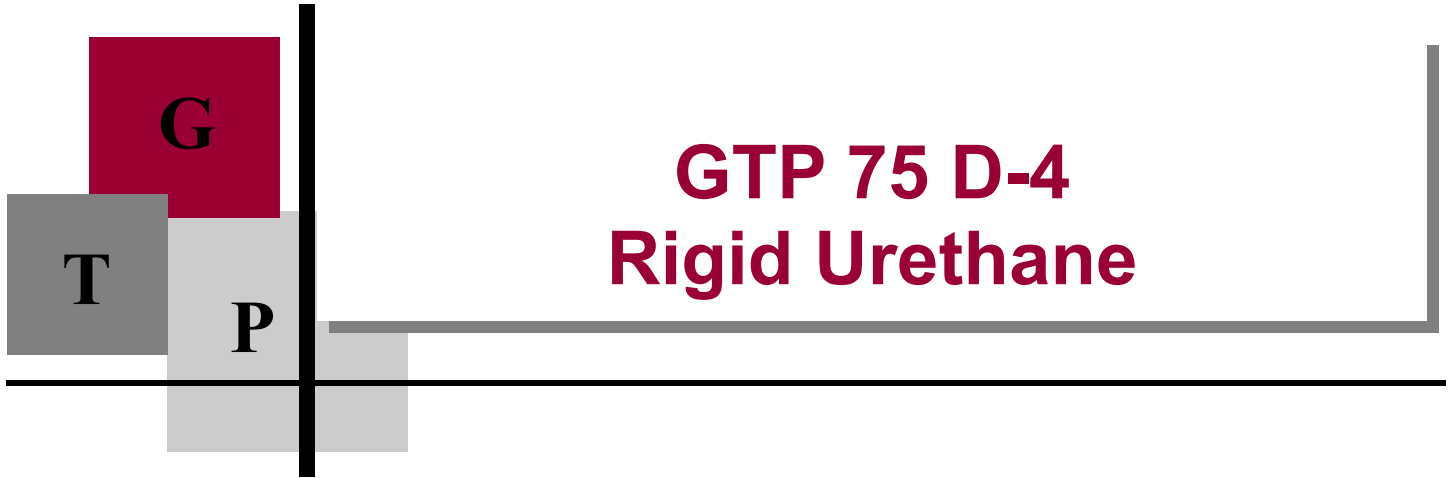
### MIX RATIO

By Volume	1:1
By Weight	53:47
Specific Gravity	A: 1.10      B: 0.98
Viscosity	A: 50 cps      B: 100 cps
Gel Time	3 minutes
Demold Time	10 – 15 minutes

\*Demold time depends on mass and temperature.

## Physical Properties

Hardness (D-2240)	D 75 ±2
Flexural Strength (D-790)	4,700 psi
Flexural Modulus (D-790)	150,000 psi
Tensile Strength (D-638)	2,700 psi
Ultimate Elongation (D-638)	15 %



## DESCRIPTION

**GTP 75 D-4** is a light tan color Shore D75 polyurethane rotocasting system. Advantages of this system are low viscosity, easy and fast processing (1:1 volume ratio, long gel and quick demold), as well as good physical properties. This formula is a polyether polyol / MDI based extended system. It can easily be pigmented as well as filled with most types of mineral fillers and plastic or glass microspheres. The recommended processing includes: rotomolding, injection molding, open pour.

## STORAGE AND MIXING

Both A and B-components are very stable mixtures. However we suggest re-mixing the B-component at least once a week. Recommended storage temperature is 70-105°F. Store containers tightly closed since this material is moisture sensitive. If properly stored, the shelf life is 6 months or more.

## Working Properties

### MIX RATIO

By Volume	1:1
Viscosity	A: 50 cps    B: 100 cps
Gel Time	4 minutes
Demold Time	30 minutes

\*Demold time depends on mass and temperature.

## Physical Properties

Hardness (D-2240)	D 75 ±2
Flexural Strength (D-790)	2,700 psi
Flexural Modulus (D-790)	150,000 psi
Tensile Strength (D-638)	2,700 psi
Ultimate Elongation (D-638)	15 %

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# GTP 80 D Rigid Urethane

**Description** GTP 80D is a very low viscosity, rapid setting, rigid urethane compound with high strength and durometer. This system will cure quickly to a hard, tough impact resistant casting. GTP 80D is non-sensitive to moisture after cure and will readily bond to itself if stage pours are required. The 1:1 by volume, mix ratio makes for easy hand or machine mix. GTP 80D is recommended in applications where a “thermoplastic feel” is desired.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	50 cps	1.15	9.61 lb.
Component B	100-150 cps	.97	8.07 lb.
Mixed	75 cps	1.06	8.84 lb.

<b>Mixing Ratio</b>		
	By volume	100 parts A to 100 parts B
	By weight	100 parts A to 84 parts B
Work life		3 minutes @ 77° F
Demold time		45-60 minutes @ 77° F
	Set time and Demold depend on temperature and relative humidity	

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240	78 Shore D
Tensile strength	ASTM D-638	5600
Elongation	ASTM D-638	3.5 %
Impact strength	ASTM D-256	1.5 ft. lb/in
Linear shrinkage	ASTM D-2566	.0029 in/in
Deflection temperature	ASTM D-758	135° F
Machinability		Excellent
Cubic inch per lb. of product		25.2
Compression	ASTM D-695	3,985
Thermal coefficient of expansion (in/in/f)	ASTM 696	13.2X10
	Results obtained from a 7-day room temperature cure	
Color		White

**Shelf Life** GTP 80D is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP 80D is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 110-gallon kits. GTP 80D has a non-hazardous rating for shipping.

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# GTP 85 D Slow Rigid Urethane

## Description

GTP 80D Slow is a very low viscosity, rapid setting, and rigid urethane compound with high strength and durometer. This system will cure quickly to a hard, tough impact resistant casting. GTP 80D Slow is non-sensitive to moisture after cure and will readily bond to itself, as stage pours are required. The 1:1, by volume, mix ratio makes for easy hand or machine mix. GTP 80D Slow is recommended in applications where a “thermoplastic feel” is desired

## Typical Properties

Component A	Viscosity 50 cps	Specific Gravity 1.15	Weight Per Gallon 9.61 lb.
Component B	100-150 cps	.99	8.29 lb.
Mixed	75 cps	1.07	8.95 lb.
Mixing Ratio	By volume		100 parts A to 100 parts B
	By weight		100 parts A to 86 parts B
Work life			10-15 minutes @ 77° F
Demold time			1 hour @ 77° F
	Set time and Demold depend on temperature and relative humidity		

## Physical Properties

Hardness	Test Method ASTM 2240	Value 72 Shore D
Tensile strength	ASTM-D 638	5200
Elongation	ASTM-D 638	3.5 %
Specific gravity (cured)	ASTM D-792	1.10
Impact strength	ASTM D-256	1.5 ft. lb/in
Linear shrinkage	ASTM D-2566	.0029 in/in
Deflection temperature	ASTM D-758	135° F
Machinability		Excellent
Cubic inch per lb. or product		25.2
Compression	ASTM D-695	3,770
	Results obtained from a 7-day room temperature cure	
Color		White

## Shelf Life

GTP 80D Slow is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

## Packaging

GTP 80D Slow is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 110-gallon kits. GTP 80D Slow has a non-hazardous rating for shipping.

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# GTP 6505 Rigid Urethane

## **Description**

GTP 6505 is a rigid urethane polymer specifically formulated to produce prototype parts from low cost tooling. Silicone, polyurethane epoxy molds can be used. Cured parts have the look and feel of thermoplastic. The parts have high impact strength, thermal resistance and good dimensional stability. This system permits demolding in 45 minutes to one hour, depending on configuration. GTP 6505 is best suited for hand mixing.

## **Application**

GTP 6505 is designed for making prototype and limited run production parts. Stir well before use. This material will separate. Work in well-ventilated area and use clean, dry tools for mixing and applying. Combine the resin and hardener according to mix ratio. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 65° F (18° C) when mixing. If heating of product in plastic packaging is necessary, heat in a ventilated oven to 145° F maximum. Before heating, loosen the container lid slightly to relieve any pressure buildup and place container to be heated into a metal bucket of sufficient volume to contain the product, should the container tip over or leak. This product may crystallize upon storage. If crystallized, vent container and heat to 125-145° F until crystals dissolve. Store well after product has been liquefied.

## **Mix Ratio**

Reaction ratio 100 parts A to 100 parts B by weight. 85 parts A to 100 parts B by volume. This system is best suited for hand mixing. The long gel time makes hand mixing ideal.

Simple silicone, urethane or epoxy molds can be used for molding GTP 6505. Mold design and construction allow pressure-free casting. Work in a well-ventilated area and use clean, dry tools for mixing and applying. Combine the resin and hardener according to mix ratio. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 65° F (18° C) when mixing.

**Precautions:** Do not use or handle this product until the Material Safety Data Sheet has been read and understood.

GTP 6505 Part A: Warning! Harmful if inhaled. Causes skin and eye irritation. Causes allergic skin and respiratory reaction. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep container closed. Use part B of GTP 6505 with adequate ventilation. Wash thoroughly after handling.

GTP 6505 Part B: Causes eye irritation. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use part B of GTP 6505 with adequate ventilation. Wash thoroughly after handling.

**Precautionary Note:** Thermosetting systems generate heat when curing. The amount of heat and the period of time in which heat is released vary significantly between systems. Additionally, ambient or compound temperature, amount of material mixed, and construction or shape of the mold or container can also be factors in the temperature profile of a mixed system. In some cases, the thermosetting reaction can be vigorous, generating heat sufficient to cause decomposition of the system with subsequent liberation of large volumes of acid smoke. These facts are especially important when using a rapidly reacting system such as the one described in this literature

**Typical Properties**

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	200 cps	1.23	10.25 lb.
Component B	2000 cps	1.05	8.74 lb.
Mixed	1100 cps	1.13	9.44 lb.
Mixing Ratio	By volume By weight	85 parts A to 100 parts B 100 parts A to 100 parts B	
Work life			5-8 minutes @ 77° F
Demold time			45-60 minutes @ 77° F

Set time and Demold depend on temperature and relative humidity.

**Physical Properties**

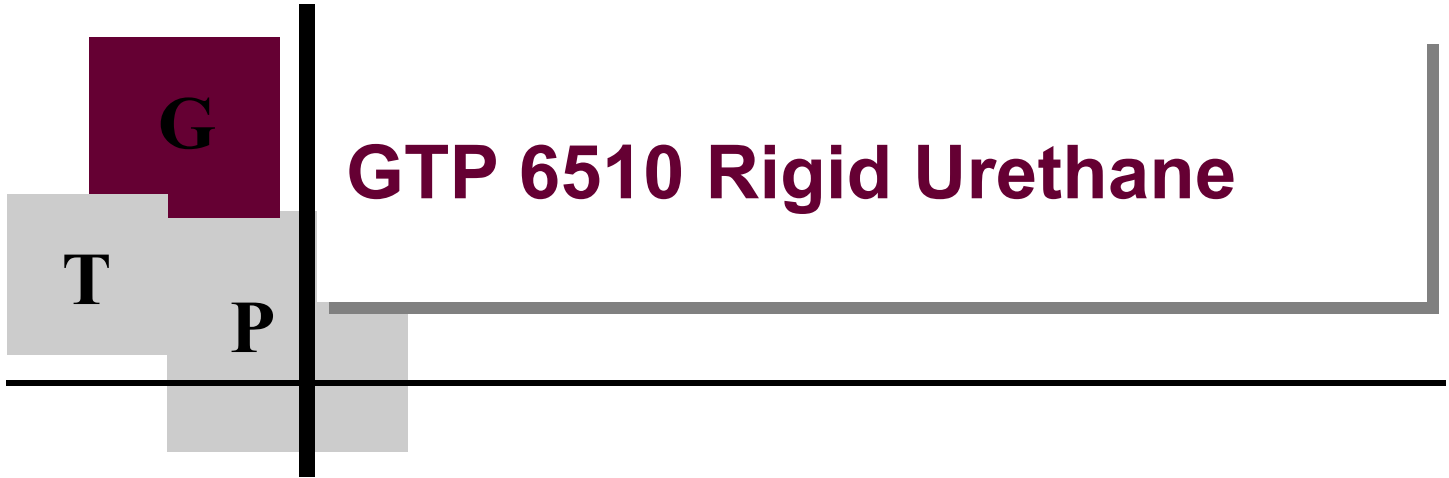
	Test Method	Value
Hardness	ASTM 2240	80 Shore D
Tensile strength	N/A	7573
Elongation	N/A	8 %
Tear resistance (lb/in) @0.2"/min, Type I	D638	1590
Cured density (gram/inch)		18.55
Color		Tan

**Shelf Life**

GTP 6505 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

GTP 6505 is available in convenient 1-quart, 1.7-gallon, 8.5-gallon, 51-gallon and 95-gallon kits. GTP 6505 has a non-hazardous rating for shipping.



# GTP 6510 Rigid Urethane

## **Description**

GTP 6510 is a rigid urethane polymer specifically formulated to produce prototype parts from low cost tooling. Silicone, polyurethane epoxy molds can be used. Cured parts have the look and feel of thermoplastic. The parts have high impact strength, thermal resistance and good dimensional stability. This system permits de-molding in 15-20 minutes, depending on configuration. GTP 6510 is best suited for use with meter-mix dispensing equipment.

## **Application**

GTP 6510 is designed for making prototype and limited run production parts.

## **Mix Ratio**

Reaction ratio 100 parts A to 100 parts B by weight, 85 parts A to 100 parts B by volume. This highly reactive system is best suited for use with meter-mix dispensing equipment. The short gel time makes hand mixing difficult. Simple silicone, urethane or epoxy molds can be used for molding GTP 6510. Mold design and construction allow pressure-free casting.

Stir well before use. This material will separate. Work in a well-ventilated area and use clean, dry tools for mixing and applying. Combine the resin and hardener according to mix ratio. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 65° F (18° C) when mixing. If heating of product in plastic packaging is necessary, heat in a ventilated oven to 145° F maximum. Before heating, loosen the container lid slightly to relieve any pressure buildup and place container to be heated into a metal bucket of sufficient volume to contain the product, should the container tip over or leak. This product may crystallize upon storage. If crystallized, vent container and heat to 125-145° F until crystals dissolve. Store well after product has liquefied.

**Precautions:** Do not use or handle this product until the Material Safety Data Sheet has been read and understood.

GTP 6510 Part A: Warning! Harmful if inhaled. Causes skin and eye irritation. Causes allergic skin and respiratory reaction. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mists. Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

GTP 6510 Part B: Causes eye irritation. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

**Precautionary Note:** Thermosetting systems generate heat when curing. The amount of heat and the period of time in which heat is released vary significantly between systems. Additionally, ambient or compound temperature, amount of material mixed, and construction or shape of the mold or container can also be factors in the temperature profile of a mixed system. In some cases, the thermosetting reaction can be vigorous, generating heat sufficient to cause decomposition of the system with subsequent liberation of large volumes of acrid smoke. These facts are especially important when using a rapidly reacting system such as the one described in this literature.

**Typical Properties**

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	200 cps	1.23	10.25 lb.
Component B	2000 cps	1.05	8.68 lb.
Mixed	1100 cps	1.13	9.40 lb.
Mixing Ratio	By volume	85 parts A to 100 parts B	
	By weight	100 parts A to 100 parts B	
	Work life	60-90 seconds @ 77° F	
	Demold time	15-30 minutes @ 77° F	
	Set time and Demold depend on temperature and relative humidity		

**Physical Properties**

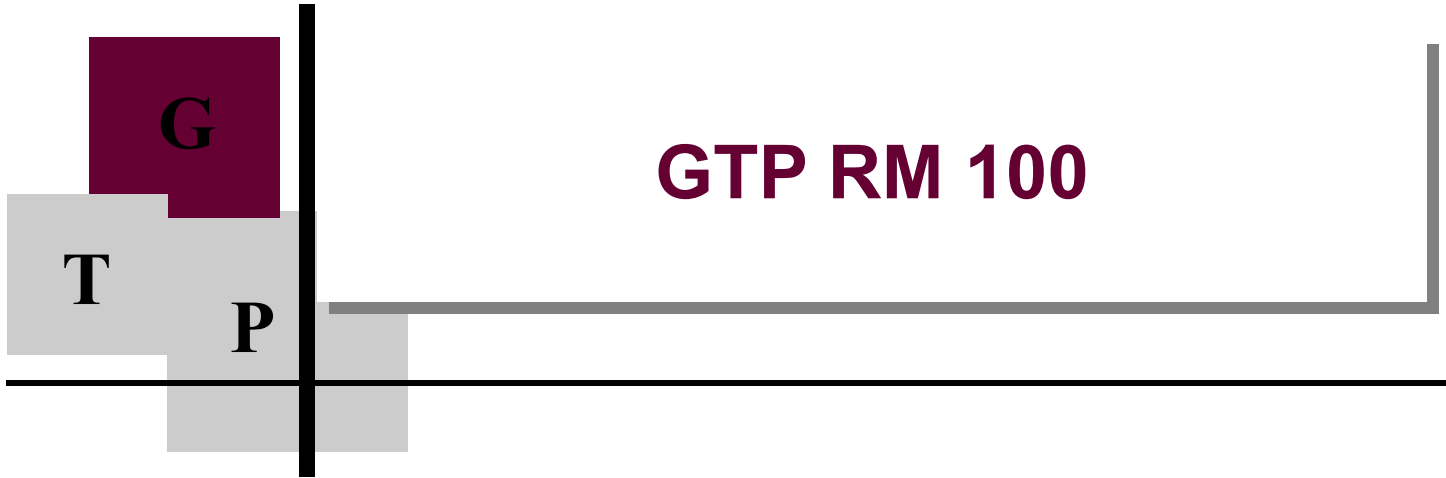
	Test Method	Value
Hardness	ASTM 2240	81 Shore D
Tensile strength	N/A	7500
Elongation	N/A	7 %
Tear resistance lb/in @ 0.2'/min Type I	D-638	1590
Cured density (gram/inch)		18.47
Heat deflection		190° F
Color	Tan	

**Shelf Life**

GTP 6510 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

GTP 6510 is available in convenient 1-quart, 1.7-gallon, 8.5-gallon, 51-gallon and 95-gallon kits. GTP 6510 has a non-hazardous rating for shipping.



# GTP RM 100

**Description** GTP-RM100 is a low viscosity, rapid setting, and rigid urethane compound with high strength and durometer. This system will cure quickly to a hard, tough impact resistant casting. GTP-RM100 is non-sensitive to moisture after cure and will readily bond to itself, as stage pours are required. The 1:1, by volume, mix ratio makes for easy hand or machine mix. GTP-RM100 is recommended in applications where a “thermoplastic feel” is desired.

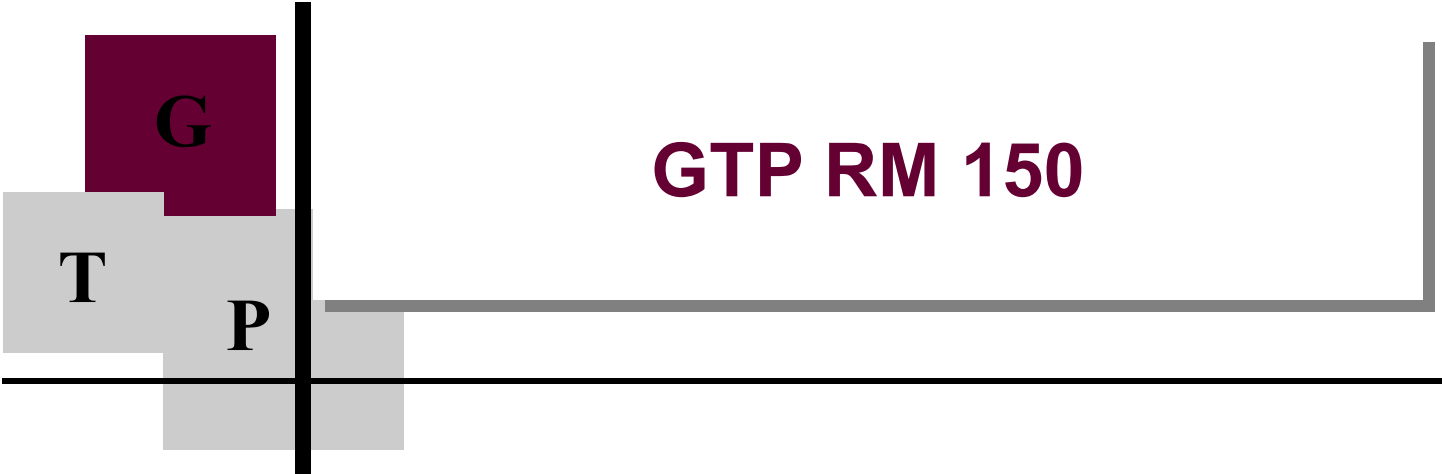
<u>Typical Properties</u>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	400 cps	1.19	9.94 lb.
Component B	800 cps	1.01	8.38 lb.
Mixed	500 cps	1.10	9.17 lb.
Mixing Ratio	By volume		100 parts A to 100 parts B
	By weight		100 parts A to 84 parts B
Work life			5 minutes @ 77° F
Demold time			30-45 minutes @ 77° F
	Set time and Demold depend on temperature and relative humidity		

<u>Physical Properties</u>	Test Method	Value
Hardness	ASTM 2240	70 Shore D
Tensile strength	ASTM-D 638	5600
Elongation	ASTM-D 638	3.5 %
Specific gravity (cured)	ASTM D-792	1.10
Impact strength	ASTM D-256	1.5 ft. lb/in
Linear shrinkage	ASTM D-2566	.0029 in/in
Deflection temperature	ASTM D-758	135° F
Machinability		Excellent
Cubic inch per lb. of product		25.2
Compression	ASTM D-695	3,985
Thermal coefficient of expansion (on/in/F)	ASTM D-696	13.2X10
	Results obtained from a 7-day room temperature cure	

Color Light Cream

**Shelf Life** GTP-RM100 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP-RM100 is available in convenient 2-quart, 2-gallon, 10-gallon and 100-gallon kits. GTP-RM100 has a non-hazardous rating for shipping.



# GTP RM 150

**Description** GTP RM150 is a low viscosity, rapid setting, rigid urethane compound with high strength and durometer. This system will cure quickly to a hard, tough impact resistant casting. GTP RM150 is non-sensitive to moisture after curing. The 1:1, by volume, mix ratio makes for easy hand or machine mix. GTP RM150 is recommended in applications where a “thermoplastic feel” is desired.

<u>Typical Properties</u>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	100 cps	1.21	10.09 lb.
Component B	250 cps	.97	8.09 lb.
Mixed	200 cps	1.09	9.09 lb.
Mixing Ratio	By volume		100 parts A to 100 parts B
	By weight		100 parts A to 80 parts B
Work life			3-5 minutes @ 77° F
Demold time			20-30 minutes @ 77° F
	Set time and Demold depend on temperature and relative humidity		

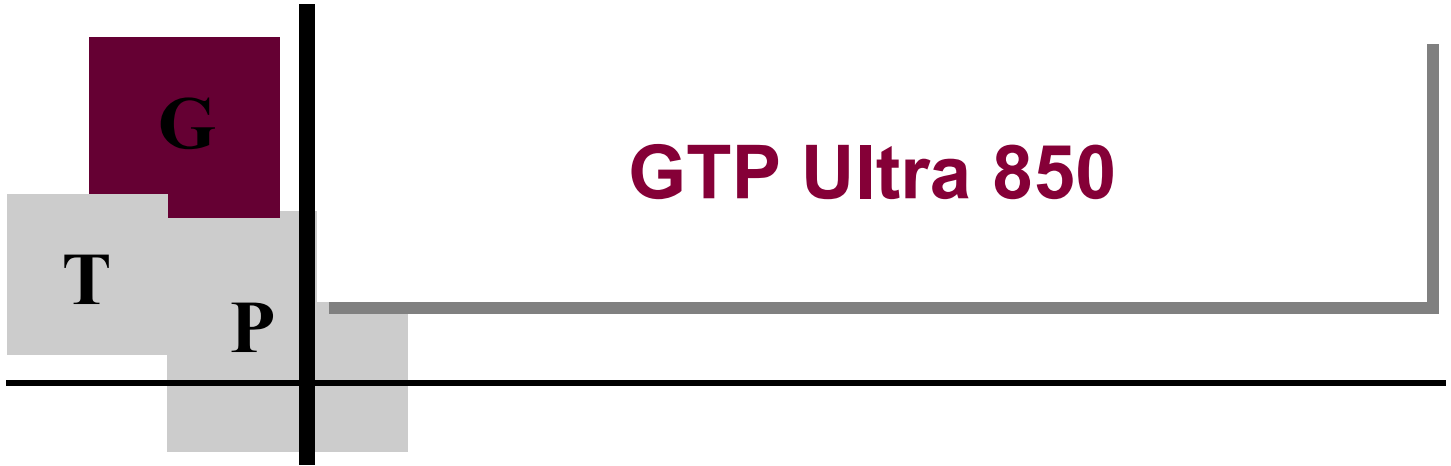
<u>Physical Properties</u>	Test Method	Value
Hardness	ASTM 2240	75 Shore D
Tensile strength	ASTM-D 638	5600
Elongation	ASTM-D 638	3.5 %
Specific gravity (cured)	ASTM D-792	1.062
Linear shrinkage	ASTM D-2566	.0029 in/in
Deflection temperature	ASTM D-758	135° F
Machinability		Excellent
Cubic inch per lb. of product		26
Compression	ASTM D-695	3,985
Thermal coefficient of expansion (in/in/F)	ASTM D-696	13.2X10

Results obtained from a 7-day room temperature cure

Color Light Cream

**Shelf Life** GTP RM150 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP RM150 is available in convenient 2-quart, 2-gallon, 10-gallon and 100-gallon kits. GTP RM150 has a non-hazardous rating for shipping.



# GTP Ultra 850

**Description** GTP Ultra 850 is a rigid urethane polymer specifically formulated with long working life to produce prototype parts from low cost tooling. Long working and low exotherm permit large deep section castings to be made. GTP Ultra 850 has the unusual quality of high hardness without “glassy” brittleness. Silicone polyurethane epoxy molds can be used. Cured parts have the look and feel of thermoplastic. The parts have high impact strength, thermal resistance and good dimensional stability. This system permits de-molding in 45 minutes to one hour, depending on configuration. GTP Ultra 850 is well suited for hand or machine mixing.

**Application** GTP Ultra 850 is designed for making prototype and limited run production parts. Work in a well-ventilated area and use clean, dry tools for mixing and applying. Combine the resin and hardener according to mix ratio. Mix together thoroughly and use immediately after mixing. Material temperature should not be below 65° F (18° C) when mixing.

**Precautions:** Do not use or handle this product until the Material Safety Data Sheet has been read and understood.

GTP Ultra 850 Part A: **Warning!** Harmful if inhaled when heated to above 200° F. May cause skin and eye irritation. May cause allergic skin and clothing. Avoid breathing vapor or mist (only when heated to above 200° F). Avoid prolonged or repeated contact with skin. Keep container closed. Use part B of GTP Ultra 850 with adequate ventilation. Wash thoroughly after handling.

GTP Ultra 850 Part B: Causes eye irritation. Harmful if swallowed. Do not get into eyes, on skin, or on clothing. Avoid breathing vapor or mist. Keep containers closed. Use part B of GTP Ultra 850 with adequate ventilation. Wash thoroughly after handling.

**Precautionary Note:** Thermosetting systems generate heat when curing. The amount of heat and the period of time in which heat is released vary significantly between systems. Additionally, ambient or compound temperature, amount of material mixed, and construction or shape of the mold or container can also be factors in the temperature profile of a mixed system. The cooler system is allowed to cure, the less shrinkage produced.

**Mix Ratio** Reaction ratio 100 parts A to 82 parts B by weight. 100 parts A to 100 parts B by volume. This system is best suited for hand mixing. The long gel time makes hand mixing ideal.

Simple silicone, urethane or epoxy molds can be used for molding GTP Ultra 850. Mold design and construction allow pressure-free casting.

**Typical Properties**

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	350 cps	1.26	10.53 lb.
Component B	450 cps	1.03	8.60 lb.
Mixed	400 cps	1.15	9.56 lb.
Mixing Ratio	By volume By weight		100 parts A to 100 parts B 100 parts A to 82 parts B
Work life			20 minutes @ 72° F
Demold time			45-60 minutes @ 72° F
	Set time and Demold depend on temperature and relative humidity		

**Physical Properties**

	Test Method	Value
Hardness	ASTM 2240	80 Shore D
Tensile strength	N/A	7500
Elongation	N/A	2 %
Tear resistance (lb/in)	D638 @ 0.2"/min, Type I	1590
Cured density (gram/inch)		18.79
Shrinkage (mass casting of 100lb) (Smaller casting will have less shrinkage)		.0014/inch
Color		Cream Beige

**Shelf Life**

GTP Ultra 850 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

GTP Ultra 850 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP Ultra 850 has a non-hazardous rating for shipping.



# GTP KastStone

**Description** GTP *KastStone* is a two component, ceramic filled, rapid setting urethane molding compound. When fully cured, GTP *KastStone* attains high compression and heat distortion characteristics, which makes it ideal for patterns, or prototype models. GTP *KastStone*'s high ceramic filler loading also adds some unusual insulation qualities.

**Application** Mold surfaces should be clean and free of dust and moisture. An even coat of silicone mold release (Ease Release 2251) is applied taking care to avoid puddling or drips. Porous surfaces (plaster or wood) must be completely sealed using sand and sealer or Johnson's Paste Wax.

GTP *KastStone* is a rapid setting, two components having high ceramic filler loading and requires special preparation before using. Component A and B typically must be premixed prior to combining for final mixing.

**Mix Ratio** Proper mixing can be made using a spatula or jiffy mixer. Mixing of the ceramic filler and liquid resin should be done by carefully scraping the sides and bottom of the container to attain an even mixture. Components A and B should be used immediately to avoid separation or moisture contamination. Measure out equal portions by volume of Component A and Component B. Mix with spatula or jiffy mixer (for larger batches). Pour mixed resin into prepared mold. Allow curing 30 to 45 minutes before demolding. GTP *KastStone* is fully cured in 24 hours.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	1000 cps	0.80	6.67 lb.
Component B	2100 cps	0.70	5.81 lb.
Mixed	1500 cps	0.75	6.24 lb.
Mixing Ratio	By volume		1 part A to 1 part B
	By weight		100 parts A to 87 parts B
Work life			3-5 minutes @ 72° F
Demold time			1 hour-thin walled parts, 10-20 minutes-thicker cross section
			Set time and Demold depend on temperature and relative humidity

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240	65 Shore D
Tensile strength	N/A	3500
Elongation	N/A	1 %
Density		0.88
Weight (cubic inch)		0.032 lb. (14.53 gram)
Shrinkage (thicker cross section may be more)		0.125 %
Color		Light Gray

**Shelf Life** GTP *KastStone* is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP *KastStone* is available in convenient 2-quart, 2-gallon, 8-gallon and 96-gallon kits. GTP *KastStone* has a non-hazardous rating for shipping.



# GTP KastWood

**Description** GTP *KastWood* is a two component, lightweight, rapid setting urethane-molding compound. When fully cured, GTP *KastWood* attains properties similar to light weight wood or foam. Carving, sanding and machining can easily be done. GTP *KastWood*'s lightweight makes it ideal for molding non-absorbing parts for flotation.

**Application** Mold surfaces should be clean and free of dust and moisture. An even coat of silicone mold release (Ease Release 2251) is applied taking care to avoid puddling or drips. Porous surfaces (plaster and wood) must be completely sealed using sand and sealer Johnson's Paste Wax.

GTP *KastWood* is a rapid setting, two-component molding compound having unusually low density and requires special preparation before using. Component A and component B typically must be premixed prior to combining for final mixing.

Proper mixing can be made using a spatula or Jiffy mixer. Mixing of the lightweight filler and liquid resin should be done by carefully scraping the sides and bottom of the container to attain an even mixture. Component A and B should be used immediately to avoid separation or moisture contamination.

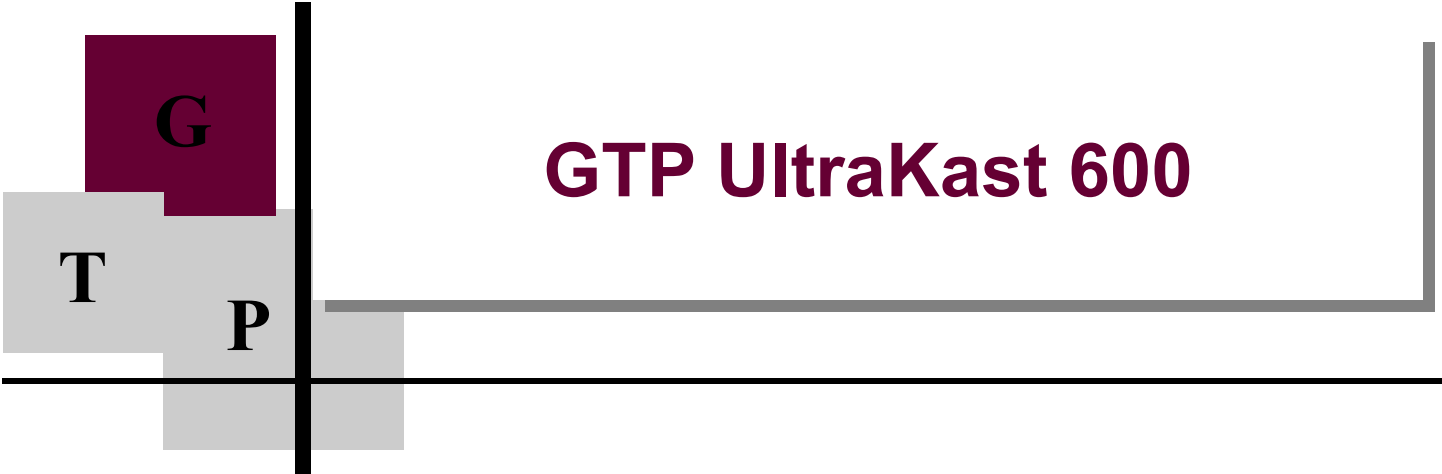
Measure out equal portions by volume of component A and component B. Mix with spatula or jiffy mixer (for larger batches). Pour mixed resin into prepared mold. Allow curing 30 to 45 minutes before demolding. GTP *KastWood* is fully cured in 24 hours.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	1500 cps	0.57	4.74 lb.
Component B	2500 cps	0.49	4.07 lb.
Mixed	2000 cps	0.53	4.40 lb.
Mixing Ratio	By volume		1 part A to 1 part B
	By weight		100 parts A to 86 parts B
Work life			3-5 minutes @ 72° F
Demold time			1 hr. thin walled parts, 10-20 min. thicker cross section
			Set time and Demold depend on temperature and relative humidity

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240	55 Shore D
Tensile strength	N/A	3000
Elongation	N/A	1 %
Density		0.602
Weight/cubic inch		0.0217 lb. (9.87 gram)
Shrinkage (thicker cross section may be more)		0.25 %
Color		White

**Shelf Life** GTP *KastWood* is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP *KastWood* is available in convenient 2-quart, 2-gallon, 8-gallon and 96-gallon kits. GTP *KastWood* has a non-hazardous rating for shipping



# GTP UltraKast 600

**Description**

UltraKast 600 is a low viscosity, two-component liquid castable polyurethane elastomer that contains no TDI or MOCA. The material has a low mixed viscosity and after twenty minutes is less than 4,000 centipoises. UltraKast 600 is insensitive to typical environmental moisture and exhibits low shrinkage. UltraKast 600 provides the strength and durability of a heat-cured urethane in a simple to use RTV system. It provides you with the ability to cast high strength, flexible urethane parts in urethane or silicone molds. UltraKast 600 can be colored with our RV series pigments. We recommend using black or darker colors to prevent color change or applying a UV resistant coating. This product is reddish/brown in color. Some uses for UltraKast 600 include core box liners, metal forming pads, industrial parts and abrasion resistant pads and bumpers.

**Applications**

Service temperature range is -50° F to 200° F.

**Typical Properties**

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	7000 cps	1.03	8.59 lb.
Component B	100 cps	0.99	8.29 lb.
Mixed	2000 cps	1.02	8.51 lb.
Mixing Ratio	By volume		100 parts A to 38.8 parts B
	By weight		100 parts A to 40 parts B
Work life		27 minutes @ 77° F	
Demold time		16 – 24 hours @ 77° F, 2 – 4 hours @ 150°F	
Complete cure		7 days @ 77° F	

Set time and Demold depend on temperature and relative humidity.

**Physical Properties**

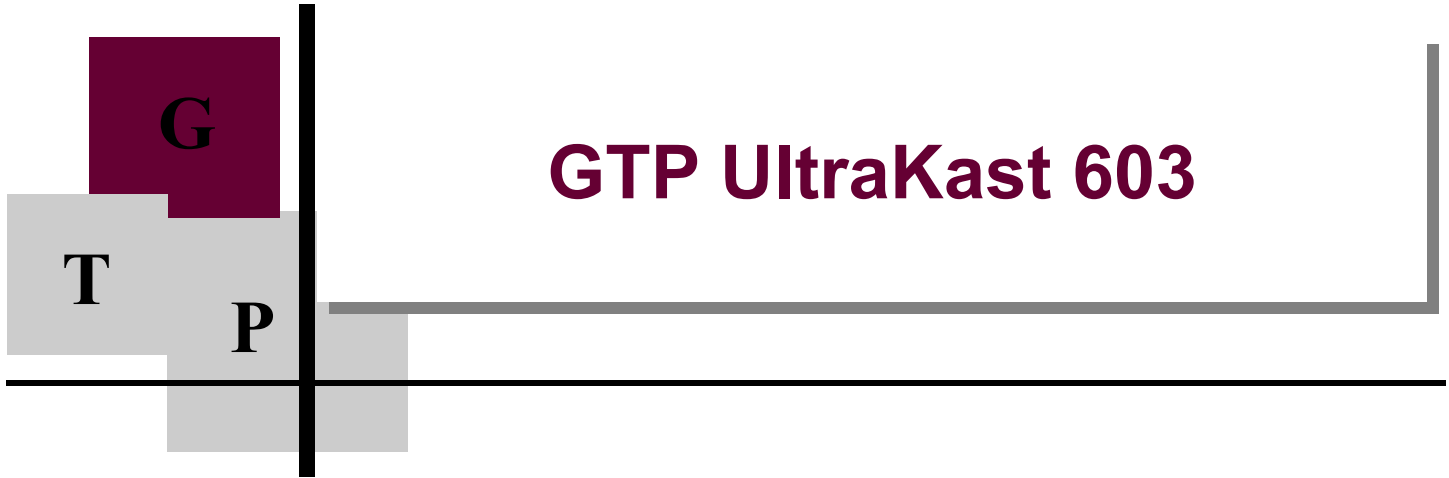
	Test Method	Value
Hardness	ASTM 2240	35 Shore D
Tensile strength	D-412-68	3,900 psi
Elongation	D-412-68	450 %
Tensile modulus	D-417-68	2,150 psi
Tear strength	D-624 die C	600 ppi
Shrinkage (inch)	D-2566	0.0015
Density (A) g/cm3 (lb./gal.)	ASTM D-792-66	8.70 (1.044)
Density (B) g/cm3 (lb./gal.)	ASTM D-792-66	8.50 (1.02)
Color		Clear

**Shelf Life**

UltraKast 600 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

UltraKast 600 is available in convenient 2-quart, 1-gallon, 5-gallon, 40-gallon and 79-gallon kits. UltraKast 600 has a non-hazardous rating for shipping.



### Description

UltraKast 603 is a low viscosity, two-component liquid castable polyurethane elastomer that contains no TDI or MOCA and after 10 minutes is less than 4,000 centipoises. UltraKast 603 is insensitive to typical environmental moisture and exhibits low shrinkage. UltraKast 603 provides the strength and durability of a heat-cured urethane in a simple to use RTV system. It provides you with the ability to cast high strength, flexible urethane parts in urethane or silicone molds. UltraKast 603 can be colored with our RV series pigments. We recommend using black or darker colors to prevent color change or applying a UV resistant coating. This product is reddish/brown in color. Some uses for UltraKast 603 include core box liners, metal forming pads, industrial parts and abrasion resistant pads and bumpers.

### Application

Aluminum surface to be bonded should be brushed blasted to achieve a 2 to 3-mill surface profile to remove all surface oxidation and traces of previously bonded polymer. After blasting, etched surface should be thoroughly degreased using M.E.K. (methyl ethyl ketone) solvent wipe. Surface is now ready for priming.

To prevent further surface oxidation, prepared aluminum surface should be immediately primed using Primer 350 acid etching primer and allowed to cure in a dry environment overnight 12 hours (see Primer 350 technical data sheet for full mixing and application instructions). After Primer 350 has cured the surface should be primed with Primer 450 urethane bonding primer. This should be allowed to cure for 1 hour at 72° F before applying UltraKast 603 urethane elastomer (see Primer 450 technical data sheet for full mixing and application instructions).

- **Do not** allow Primer 350 to cure more than 24 hours before applying Primer 450 or surface must be stripped and primed again with more Primer 350 to ensure chemical bonding between primer coats.
- **Do not** allow Primer 450 to cure longer than 3 hours before applying UltraKast 603 urethane elastomer to ensure a total chemical bond in between primer and elastomer coating.
- Maintain at least 72° F during the complete application process. Colder temperatures retard curing times, warmer temperatures reduce curing times.
- All primed surfaces should be kept free of moisture, dust and any grease or oil, which may interfere with polymer bond.

UltraKast 603 should be warmed to 110° F before mixing component A (gallon can) and component B (quart can). Store polymer at 72° F for long-term storage to ensure proper shelf life. Open component A can and remove sealing ring with a hand held can opener. Pour all of component B into component A and begin mixing immediately. Use a 12" Jiffy mixer and electric drill at slow speed to avoid trapping unwanted air into polymer mix. Mix for about 1½ minutes. Service temperature range is -50° F to 200° F.

### Mix Ratio

**UltraKast 603 should be warmed to 110° F before mixing component A (gallon can) and component B (quart can). Store polymer at 72° F for long-term storage to ensure proper shelf life. Open component A can and remove sealing ring with a hand held can opener. Pour all of component B into component A and begin mixing immediately. Use a 12" Jiffy mixer and electric drill at slow speed to avoid trapping unwanted air into polymer mix. Mix for about 1-½ minutes.**

**Typical Properties**

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	7000 cps	1.03	8.59 lb.
Component B	100 cps	0.997	8.32 lb.
Mixed	2000 cps	1.02	8.53 lb.
Mixing Ratio	By volume By weight		3 parts A to 1 part B 3 parts A to 1 part B
Work life			27 minutes @ 77° F
Demold time			16 – 24 hours @ 77° F, 2 – 4 hours @ 150° F Complete cure 7 days @ 77° F

Set time and Demold depend on temperature and relative humidity

**Physical Properties**

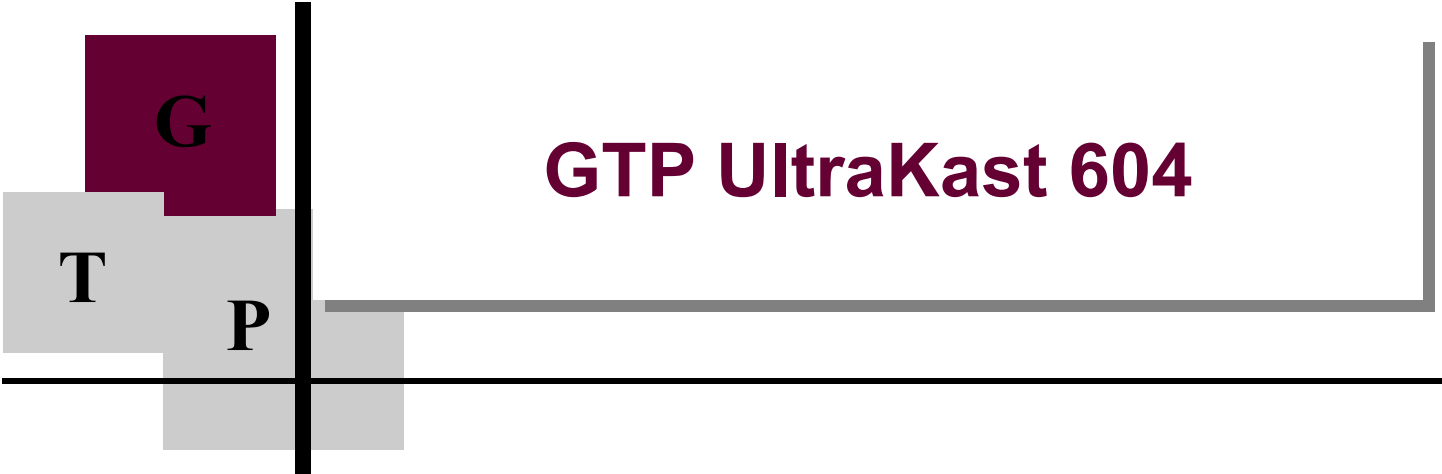
	Test Method	Value
Hardness	ASTM 2240	40 Shore D
Tensile strength	D-412-68	4900 – Clear, 3734 - Pigmented
Elongation	D-412-68	400 – Clear, 451 Pigmented
Tear Strength	D-624 die C	850 – Clear, 763 Pigmented
Shrinkage (inch)	D-2566	0.0015
Density (A) (lb./gal.)	ASTM D-792-66	8.70
Density (B) (lb./gal.)	ASTM D-792-66	8.50
Density (Mixed) (lb./gal.)	ASTM D-792-66	8.53
Color		Clear

**Shelf Life**

UltraKast 603 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

UltraKast 603 is available in convenient 1-quart, 1-gallon, 2.9-gallon, 6.3-gallon, 37.7-gallon and 63-gallon kits. UltraKast 603 has a non-hazardous rating for shipping.



# GTP UltraKast 604

**Description**

UltraKast 604 is a two component liquid castable polyurethane elastomer that contains no TDI or MOCA. The material when cured has outstanding physical properties. Exhibiting high tensile and tear strength along with exceptional abrasion resistance. It is insensitive to typical environmental moisture and exhibits low shrinkage. UltraKast 604 provides the strength and durability of a heat-cured urethane in a simple to use RTV system. It provides you with the ability to cast high strength, flexible urethane parts in urethane or silicone molds. UltraKast 604 can be colored with our RV series pigments. We recommend using black or darker colors to prevent color change or applying a UV resistant coating. This product is reddish/brown in color. Some uses for UltraKast 604 include core box liners, metal forming pads, industrial parts and abrasion resistant pads and bumpers.

**Applications**

Service temperature range is -50° F to 200° F.

**Typical Properties**

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	7000 cps	1.03	8.59 lb.
Component B	100 cps	1.00	8.36 lb.
Mixed	3000 cps	1.03	8.55 lb.
Mixing Ratio	By volume		4 parts A to 1 part B
	By weight		4 parts A to 1 part B
Work life			15 minutes @ 77° F
Demold time			16 – 24 hours @ 77° F, 2 – 4 hours @ 150° F
Complete cure			7 days @ 77° F

Set time and Demold depend on temperature and relative humidity

**Physical Properties**

	Test Method	Value
Hardness	ASTM 2240	45 Shore D
Tensile strength	D-412-68	5500
Elongation	D-412-68	300 %
Tear strength	D-624 die C	1400
Shrinkage (inch)	D-2566	0.0015
Density (A) g/cm3 (lb./gal.)	ASTM D-792-66	8.70 (1.044)
Density (B) g/cm3 (lb./gal.)	ASTM D-792-66	8.50 (1.02)
Color		Clear

**Shelf Life**

UltraKast 604 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

UltraKast 604 is available in convenient 1-quart, 1-gallon, 2.9-gallon, 6.3-gallon, 37.7-gallon and 63-gallon kits. UltraKast 604 has a non-hazardous rating for shipping.

## **Rope Coating Procedure**

**Description** UltraKast 604 component A (resin) and component B (curative) should be warmed to 100° F before mixing to reduce viscosity and decrease mixing.

**First Coat** The first coat should be thinned with toluene to further reduce the viscosity and increase penetration into the outer layer of the rope. The following formulation should be used.

<b>Pre-mix</b>	<b>Ingredient</b>	<b>Quantity</b>
	UltraKast 604 component B (curative)	100 grams
	Toluene	100 grams
	Black pigment (special)	20 grams
<b>Then add</b>	<b>Ingredient</b>	<b>Quantity</b>
	UltraKast 604 component A (resin)	400 grams

Mix with a flat metal spatula then transfer mix to a clean container and mix again, then apply by hand with protective latex gloves, pressing the polymer into the rope fiber.

**Second Coat** Wait 45 minutes then mix and apply second coat. Mix the same as first coat but with no toluene.

**Third Coat** Wait 45 minutes then mix and apply third coat. Mix the same as the first coat but with no toluene.

**Curing** Although this coating will cure at lower temperatures, better results can be obtained by curing at elevated temperatures. Wait one hour after final coat and begin elevated curing at 120° F over night or 70° F or above for three days for full cure.



# GTP UltraKast 605

**Description** UltraKast 605 is a two component liquid castable polyurethane elastomer that contains no TDI or MOCA. The material when cured has outstanding physical properties. Exhibiting high tensile and tear strength along with exceptional abrasion resistance. It is insensitive to environmental moisture and exhibits low shrinkage. This product is reddish/brown in color. Some uses for UltraKast 605 include core box liners, metal forming pads, industrial parts and abrasion resistant pads and bumpers.

**Application** Service temperature range is  $-50^{\circ}$  F to  $200^{\circ}$  F.

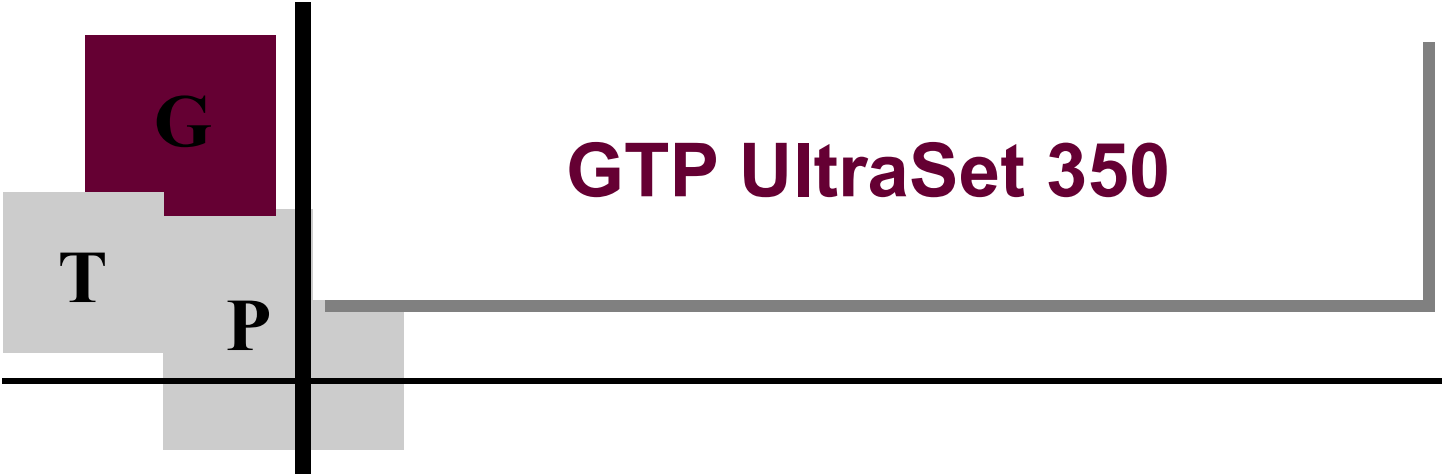
<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	7000 cps	1.03	8.59 lb.
Component B	100 cps	1.02	8.50 lb.
Mixed	4000 cps	1.03	8.59 lb.
Mixing Ratio	By volume By weight		100 parts A to 13 parts B 100 parts A to 13 parts B
Work life		10 minutes @ $77^{\circ}$ F	
Demold time		8 – 10 hours @ $77^{\circ}$ F, 1 – 2 hours @ $150^{\circ}$ F	
Complete cure		7 days @ $77^{\circ}$ F	

Set time and Demold depend on temperature and relative humidity

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240	50 Shore D
Tensile strength	D-412-68	5,700
Elongation	D-412-68	100
Tear strength	D-412-68	1,400
Shrinkage (inch)	D-2566	0.0015
Density (A) g/cm <sup>3</sup> (lb./gal.)	ASTM D-792-66 8	.70 (1.044)
Density (B) g/cm <sup>3</sup> (lb./gal.)	ASTM D-792-66 8	.50 (1.02)
Color		Clear

**Shelf Life** UltraKast 605 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed  $80^{\circ}$  F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** UltraKast 605 is available in convenient 1-quart, 2.61-gallon, 5.71-gallon, 31-gallon and 63-gallon kits. UltraKast 605 has a non-hazardous rating for shipping.



# GTP UltraSet 350

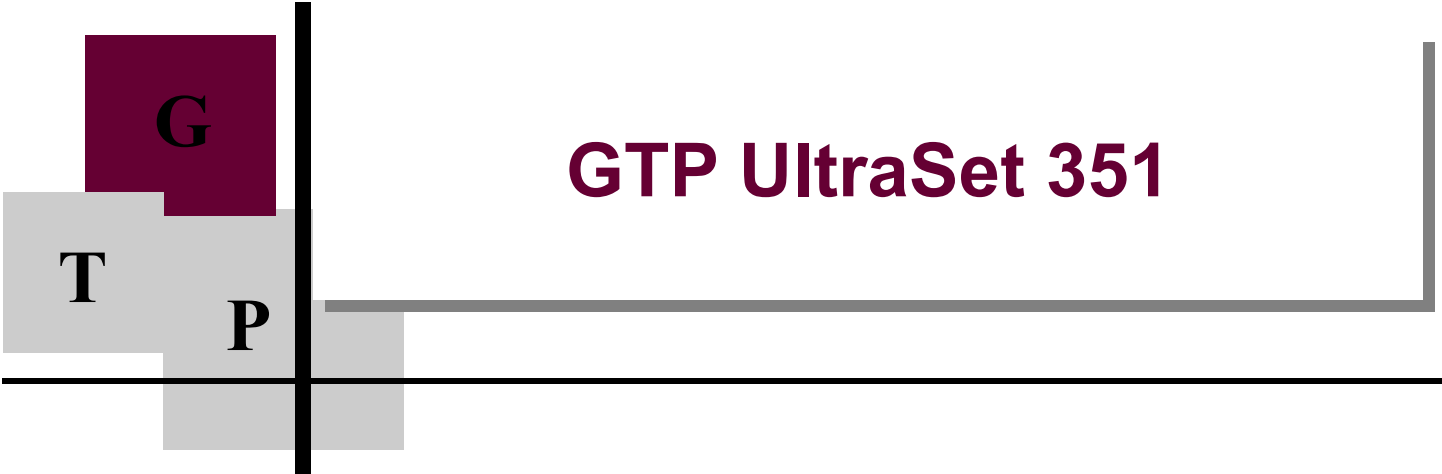
**Description** GTP UltraSet 350 is a low viscosity, rapid setting, urethane casting compound polymer with high strength and durometer. The rapid cure properties of GTP UltraSet 350 allows rapid demold. Low viscosity and 1:2 by volume mix ratio makes for easy hand mixing and application.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	150 cps	1.22	10.2 lb.
Component B	800 cps	1.04	8.69 lb.
Mixed	600 cps	1.10	9.19 lb.
Mixing Ratio	By volume		1 part A to 2 parts B
	By weight		59 parts A to 100 parts B
Work life			8-10 minutes @ 72° F
Demold time			20-30 minutes @ 72° F
	Set time and Demold depend on temperature and relative humidity		

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240	55 Shore D
Tensile strength	ASTM-D 412	2800
Elongation	ASTM-D 412	250 %
Cubic inch per lb. of product		25.19
Linear shrinkage	ASTM D-2566	.0052
Color		Yellow

**Shelf Life** GTP UltraSet 350 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP UltraSet 350 is available in convenient 3-quart, 3-gallon, 15-gallon, 90-gallon and 150-gallon kits. GTP UltraSet 350 has a non-hazardous rating for shipping.



# GTP UltraSet 351

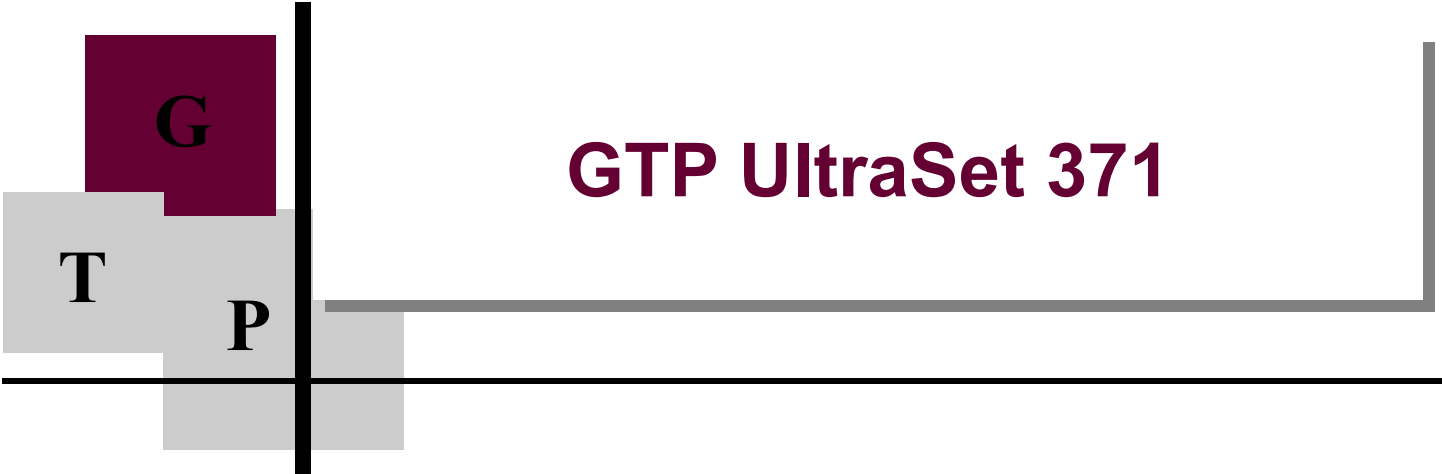
**Description** GTP UltraSet 351 is a low viscosity, rapid setting, urethane casting compound polymer with high strength and durometer. The rapid cure properties of GTP UltraSet 351 allows rapid demold. Low viscosity and 1:2 by volume mix ratio makes for easy hand mixing and application.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	150 cps	1.22	10.2 lb.
Component B	800 cps	1.04	8.69 lb.
Mixed	600 cps	1.10	9.19 lb.
Mixing Ratio	By volume		1 part A to 2 parts B
	By weight		59 parts A to 100 parts B
Work life			3 minutes @ 72° F
Demold time			15-20 minutes @ 72° F
	Set time and Demold depend on temperature and relative humidity		

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240	55 Shore D
Tensile strength	ASTM-D 412	2800
Elongation	ASTM-D 412	250 %
Cubic inch per lb. of product		25.19
Linear shrinkage	ASTM D-2566	.0052
Color		Black

**Shelf Life** GTP UltraSet 351 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP UltraSet 351 is available in convenient 3-quart, 3-gallon, 15-gallon, 90-gallon and 150-gallon kits. GTP UltraSet 351 has a non-hazardous rating for shipping.



# GTP UltraSet 371

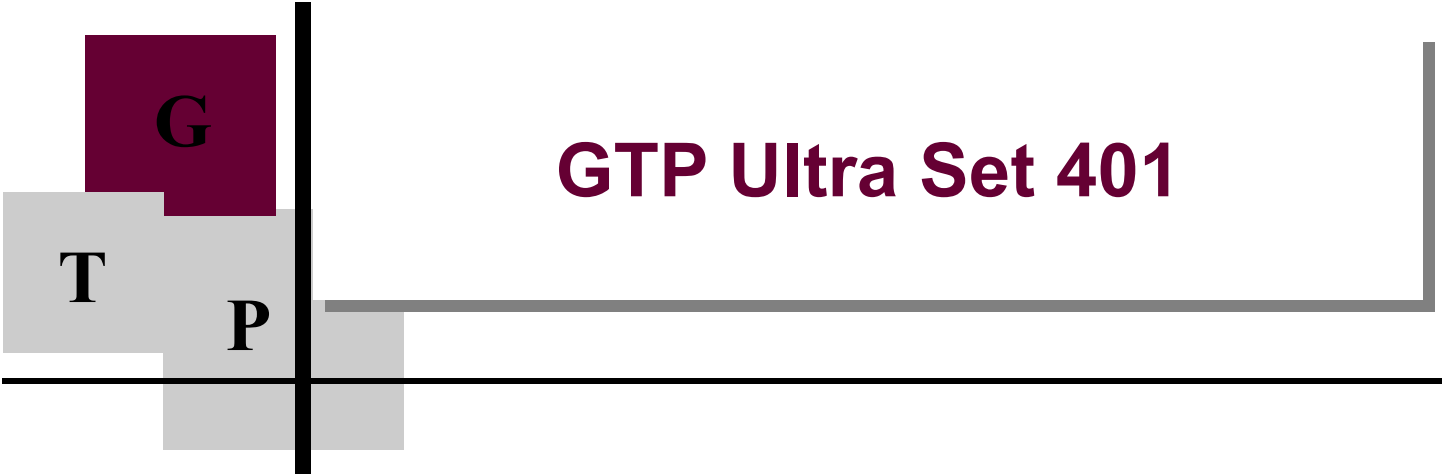
**Description** UltraSet 371 is a low viscosity cured urethane casting polymer with high strength and durometer. Low viscosity and 1:2 by volume mix ratio makes for easy hand mixing and application.

<u>Typical Properties</u>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	150 cps	1.22	10.2 lb.
Component B	800 cps	1.04	8.69 lb.
Mixed	600 cps	1.10	9.19 lb.
Mixing Ratio	By volume By weight		1 parts A to 2 parts B 59 parts A to 100 parts B
Work life			8 minutes @ 72° F
Demold time			20-30 minutes @ 72° F
	Set time and Demold depend on temperature and relative humidity		

<u>Physical Properties</u>	Test Method	Value
Hardness	ASTM 2240	65 Shore D
Tensile strength	ASTM-D 412	2800
Elongation	ASTM-D 412	250 %
Cubic inch per lb. of product		25.13
Linear shrinkage	ASTM D-2566	.0015
Color		Milky White

**Shelf Life** UltraSet 371 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** UltraSet 371 is available in convenient 3-quart, 3-gallon, 15-gallon, 90-gallon and 150-gallon kits. UltraSet 371 has a non-hazardous rating for shipping.



# GTP Ultra Set 401

**Description** UltraSet 401 is a low viscosity rapid setting urethane compound polymer with high strength and durometer. The rapid cure properties of UltraSet 401 allows rapid demold. Low viscosity and 1:1 by volume ratio makes for easy hand mixing and application.

Typical Properties	Viscosity	Specific Gravity	Weight Per Gallon
Component A	150 cps	1.19	9.89 lb.
Component B	800 cps	1.04	8.71 lb.
Mixed	600 cps	1.12	9.30 lb.
Mixing Ratio	By volume		1 part A to 1 part B
	By weight		100 parts A to 88 parts B
Work life			8-10 minutes @ 72° F
Demold time			20-30 minutes @ 72° F
	Set time and Demold depend on temperature and relative humidity		

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240	40 Shore D
Tensile strength	ASTM-D 412	2800
Elongation	ASTM-D 412	200 %
Cubic inch per lb. of product		25.19
Linear shrinkage	ASTM D-2566	.0052
Colors		Gray

**Shelf Life** UltraSet 401 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** UltraSet 401 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. UltraSet 401 has a non-hazardous rating for shipping.



# GTP ButterOn 20 Urethane Elastomer

**Description** GTP *ButterOn* 20 is a two-component urethane elastomer that is specifically formulated as a brush on molding compound. After mixing, GTP *ButterOn* 20 thickens to creamy butterable gel that can easily be brushed on to vertical or overhead surfaces without sagging or running. In 24-hours GTP *ButterOn* 20 cures to a tough rubber mold and is ready for use.

**Application** GTP *ButterOn* 20 is fully cured in 24 hours at 72° F. Colder curing temperatures will lengthen cure times. Warmer temperatures will greatly reduce working and cure times. For clean-up use methyl ethyl ketone (M.E.K.), acetone or mineral sprits.

**Mix Ratio** Component A and component B are supplied in 1 to 5 gallon containers. Component B should be thoroughly mixed before using. Component A does not need mixing. Carefully measure out equal portions of component A and component B by volume in separate containers. Mix small batches by hand with a spatula. Larger batches should be mixed using a “Jiffy mixer” and electric drill. While mixing material carefully scrape down sides and bottom of container. Mixture gradually thickens over 3 to 4 minute period to a creamy butterable consistency.

GTP *ButterOn* 20 is mixed 1 part of component A to 1 part of component B by volume, and has working life of 15 to 20 minutes @ 72° F. Warmer temperatures will decrease working life where as colder temperatures will increase working life. GTP *ButterOn* 20 can also be mixed by weight: 100 parts A to 96 parts B.

**Typical Properties**

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2500 cps	1.11	9.24 lb.
Component B	1100 cps	1.06	8.86 lb.
Mixed	500,000 cps	1.09	9.05 lb.
Mixing Ratio	By volume By weight		1 part A to 1 part B 100 parts A to 96 parts B
Work life			20 minutes @ 72° F
Set time			24 hours @ 72° F

Set time and Demold depend on temperature and relative humidity

**Physical Properties**

	Test Method	Value
Hardness	ASTM 2240-85	25 Shore A
Tensile strength	ASTM-D412	428 psi
Elongation	ASTM-D412	538 %
Modulus (100%)	ASTM D412	136 psi
Modulus (200%)	ASTM D412	209 psi
Modulus (300%)	ASTM D412	267 psi
Tear strength	ASTM-624	94 lb./in.
Cubic inch per lb. of product		25.52
Color		Purple

**Shelf Life**

GTP *ButterOn* 20 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

GTP *ButterOn* 20 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP *ButterOn* 20 has a non-hazardous rating for shipping.



# GTP ButterOn 40 Urethane Elastomer

**Description** GTP *ButterOn* 40 is a two component urethane elastomer that is specifically formulated as brush on molding compound. After mixing, GTP *ButterOn* 40 thickens to a creamy butterable gel that can easily be brushed on to vertical or overhead surfaces without sagging or running. In 24-hours GTP *ButterOn* 40 cures to a tough rubber mold and is ready for use. Some features of GTP *ButterOn* 40 include, good grease and oil resistance, easy 1 to 1 mix by volume, good adhesion between coats and it is insensitive to inhibition. It is also tough, with high tear resistance, is color coded for mix indication and has long mold storage life.

**Application** GTP *ButterOn* 40 is mixed 1 part of component A to 1 part of component B by volume, and has a working life of 10 to 15 minutes @ 72° F. Warmer temperatures will decrease working life where as colder temperatures will increase working life. GTP *ButterOn* 40 can also be mixed by weight: 100 parts of component A to 96 parts of component B.

GTP *ButterOn* 40 is fully cured in 24 hours @ 72° F. Colder curing temperatures will lengthen cure times. Warmer temperatures will greatly reduce working and curing times. For clean-up use methyl ethyl ketone (M.E.K.), acetone or mineral spirits.

**Mix Ratio** Component A and component B are supplied in 1 to 5 gallon containers. Component B should be thoroughly mixed before using. Component A does not need mixing. Carefully measure out equal portions of component A and component B by volume in separate containers. Mix small batches by hand with a spatula. Larger batches should be mixed using a “Jiffy mixer” and electric drill. While mixing material carefully scrape down sides and bottom of container. Mixture gradually thickens over a 1 to 2 minute period to a creamy butterable consistency.

**Typical Properties**

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2500 cps	1.09	9.16 lb.
Component B	1100 cps	1.06	8.83 lb.
Mixed	500,000 cps	1.08	8.99 lb.
Mixing Ratio	By volume By weight		1 part A to 1 part B 100 parts A to 96 parts B
Work life			15 minutes @ 72° F
Set time			24 hours @ 72° F

Set time and Demold depend on temperature and relative humidity

**Physical Properties**

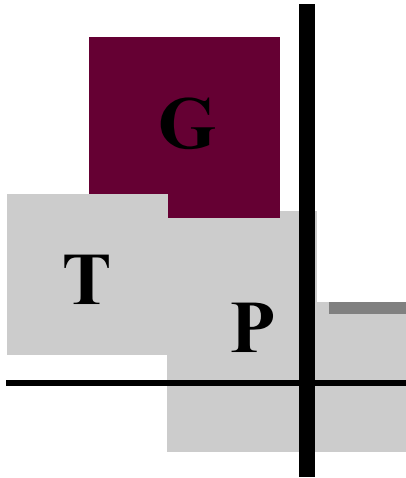
	Test Method	Value
Hardness	ASTM 2240-85	45 Shore A
Tensile strength	ASTM-D412	1076 psi
Elongation	ASTM-D412	408 %
Modulus (100%)	ASTM D412	358 psi
Modulus (200%)	ASTM D412	576 psi
Modulus (300%)	ASTM D412	822 psi
Tear strength	ASTM-624	244 lb./in.
Cubic inch per lb. of product		25.70
Color		Light Blue

**Shelf Life**

GTP *ButterOn* 40 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

GTP *ButterOn* 40 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP *ButterOn* 40 has a non-hazardous rating for shipping.



# GTP ButterOn 85D

## Rigid Thixotropic

**Description** GTP *ButterOn* 85D consists of two thin liquids, Part A (cream) and Part B (green). After mixing, GTP *ButterOn* 85D immediately thickens to a buttery non-sag paste, which forms a high strength rigid bond. GTP *ButterOn* 85D is especially well suited for forming rigid parts and molds. When fully cured, GTP *ButterOn* 85D forms a rigid “fiberglass like” polymer that is easily sanded or machined into final form. GTP *ButterOn* 85D can also be used as a rigid mother mold back up for flexible molding compounds. GTP *ButterOn* 85D can be used with expanded polystyrene foam as an adhesive or “hard” coating. The Thixotropic (self-thickening) nature of GTP *ButterOn* 85D allows for easy application to difficult overhead and vertical surfaces. GTP *ButterOn* 85D contains no solvents or fumes thereby avoiding fire and worker health hazards in contained work environments

**Application** All surfaces to be coated with GTP *ButterOn* 85D should be coated with silicone mold release “Parfilm” (available through Industrial Polymers) to prevent unwanted bonding. Parts to be coated must be absolutely dry. Fabric or chopped fiber can be used to enhance the physical properties of the cured material. Application and curing of finished parts should be done in a dry environment to prevent any unwanted surfacing bubbling. All parts are fully cured in 24 hours @ 72° F before removing clamps and trimming access adhesive. Elevated temperatures will accelerate cure time, and cooler temperature will slow down curing.

**Mix Ratio** Condition liquids to 72° F, remove container lids and stir carefully stir component A and component B separately. Carefully measure out equal parts of component A (cream beige) and component B (green) in separate container. Do not mix more than one quart of finished material per batch. To insure proper mixing and adequate working time. Pour all of component B into component A and mix by hand with flat spatula. Carefully scrape sides down and bottom of container to insure all of both components are included in the mixture. Mixture will change color to a lighter green and thicken to a creamy paste and become slightly warm to touch. Apply thickened mixture to surface.

**Typical Properties**

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	450 cps	1.23	10.29 lb.
Component B	600 cps	1.06	8.84 lb.
Mixed	500,000 cps	1.15	9.56 lb.
Mixing Ratio	By volume By weight		1 part A to 1 part B 100 parts A to 86 parts B
Work life			10 minutes @ 72° F
Cure time			24 hours @ 72° F

Set time and Demold depend on temperature and relative humidity

**Physical Properties**

	Value
Hardness	85 Shore D
Tensile strength	3500 psi
Elongation	3 %
Solids content	100%
Color	Green

**Shelf Life**

GTP *ButterOn* 85D is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

GTP *ButterOn* 85D is available in convenient 2-quart, 2-gallon and 10-gallon kits. GTP *ButterOn* 85D has a non-hazardous rating for shipping.

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# GTP Urethane Elastomer 00

**Description** GTP ELASTOMER 00 is a two component urethane elastomer that is specifically formulated to mold parts or pads that absorb impact or vibration. Once cured, GTP ELASTOMER 00 forms a soft yet tough polymer that is ideally suited for molding seat pads, sound damping speaker pads or life like artificial skin parts. GTP ELASTOMER 00 is low viscosity and is easily mixed and poured. Full cure is 24 hours at 72° F. Curing can be heat accelerated (150° F / 4 hours) to speed up processing. It is tough and has low durometer, is insensitive to inhibition and has good adhesion between coats.

**Mix Ratio** Component A and component B are supplied in 1 to 5 gallon plastic containers. Component B should be thoroughly mixed before using. Component A does not need mixing. Carefully weigh out equal portions of component A and component B. Mix together for 1 to 2 by hand using a spatula for small batches (1/2 gallon or less), or electric drill and jiffy mixer for larger batches. Use silicone mold release even when using a silicone mold to avoid residual tack. Molds may be dusted with talc powder before pouring in liquid to produce a tack free permanent surface on cured parts. GTP ELASTOMER 00 is fully cured in 24 hours at 72 F. Colder curing temperatures will lengthen cure times. Warmer temperatures will greatly reduce working and cure times. Curing can be heat accelerated (150° F/4 hours) to speed up processing. Use methyl ethyl ketone (MEK), acetone or mineral spirits for clean-up.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2000 cps	1.10	9.17 lb.
Component B	1000 cps	1.06	8.87 lb.
Mixed	1500 cps	1.08	9.02 lb.
Mixing Ratio	By volume		100 parts A to 97 parts B
	By weight		1 part A to 1 part B
Work life			30 minutes @ 72° F
Set time			24 hours @ 72° F
	Set time and Demold depend on temperature and relative humidity		

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240-85	0 Shore A
Tensile strength	ASTM D-412	116 psi
Elongation	ASTM D-412	1329 %
Modulus (100 %)	ASTM D-412	8 psi
Modulus (200 %)	ASTM D-412	10 psi
Modulus (300 %)	ASTM D-412	16 psi
Tear strength	ASTM D-624	32 lb./in.
Cubic inch per lb. of product		25.61
Color		Off White

**Shelf Life** GTP ELASTOMER 00 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP ELASTOMER 00 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP ELASTOMER 00 has a non-hazardous rating for shipping.

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# GTP Urethane Elastomer 10

## Description

GTP Elastomer 10 is a versatile, two component liquid castable polyurethane elastomer. GTP Elastomer 10 combines high strength with low shore A hardness and low residual surface tack. GTP Elastomer 10 is insensitive to typical environmental moisture, has low viscosity, high strength and low durometer. Some features include good grease and oil resistance, good flow into fine detail, good dimensional stability and good adhesion between pours. It is tough, with high tear strength and is insensitive to inhibition.

## Typical Properties

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2000 cps	1.09	9.13 lb.
Component B	1000 cps	1.05	8.77 lb.
Mixed	1500 cps	1.07	8.94 lb.
Mixing Ratio	By volume By weight		1 part A to 1 part B 100 parts A to 100 parts B
Work life			30 minutes @ 72° F
Cure time			24 Hours @ 72° F

Set time and Demold depend on temperature and relative humidity

## Physical Properties

	Test Method	Value
Hardness	ASTM 2240-85	10 Shore A
Tensile strength	ASTM D-412	243 psi
Elongation	ASTM D-412	1037 %
Modulus (100 %)	ASTM D-412	24 psi
Modulus (200 %)	ASTM D-412	40 psi
Modulus (300 %)	ASTM D-412	62 psi
Tear strength	ASTM D-624	81 lb./in.
Cubic inch per lb. of product		25.61
Color		Cream White

## Shelf Life

GTP Elastomer 10 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

## Packaging

GTP Elastomer 10 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP Elastomer 10 has a non-hazardous rating for shipping.

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# GTP Urethane Elastomer 20

## Description

GTP Elastomer 20 is a versatile, two component liquid castable polyurethane elastomer. GTP Elastomer 20 combines high strength Shore A hardness and low residual surface tack. GTP Elastomer 20 is insensitive to typical environmental moisture, has low viscosity, high strength and low durometer. Some features include good grease and oil resistance, good flow into fine detail, good dimensional stability and good adhesion between pours. It is tough, with high tear strength and is insensitive to inhibition.

## Typical Properties

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2000 cps	1.09	9.15 lb.
Component B	1000 cps	1.05	8.78 lb.
Mixed	1500 cps	1.07	8.96 lb.
Mixing Ratio	By volume	96 parts A to 100 parts B	
	By weight	1 part A to 1 part	
Work life		30 minutes @ 72° F	
Cure time		24 hours @ 72° F	
	Set time and Demold depend on temperature and relative humidity		

## Physical Properties

	Test Method	Value
Hardness	ASTM 2240-85	20 Shore A
Tensile strength	ASTM D-412	549 psi
Elongation	ASTM D-412	847 %
Modulus ( 100 %)	ASTM D-412	96 psi
Modulus (200 %)	ASTM D-412	173 psi
Modulus (300 %)	ASTM D-412	239 psi
Tear strength	ASTM D-624	125 lb./in.
Cubic inch per lb. of product		25.78
Color		Pink

## Shelf Life

GTP Elastomer 20 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

## Packaging

GTP Elastomer 20 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP Elastomer 20 has a non-hazardous rating for shipping.

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# GTP Urethane Elastomer 30

## Description

GTP Elastomer 30 is a versatile, two component liquid castable polyurethane elastomer. GTP Elastomer 30 combines high strength and elongation with excellent chemical resistance to create durable flexible molds or parts that have low residual surface tack. GTP Elastomer 30 is insensitive to typical environmental moisture, has low viscosity, high strength and low durometer. Some features include good grease and oil resistance, good flow into fine detail, good dimensional stability and good adhesion between pours. It is tough, with high tear strength and is insensitive to inhibition.

## Typical Properties

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2700 cps	1.09	9.13 lb.
Component B	1200 cps	1.05	8.78 lb.
Mixed	2000 cps	1.07	8.95 lb.
Mixing Ratio	By volume By weight		95 parts A to 100 parts B 1 part A to 1 part B
Work life			30 minutes @ 72° F
Cure time			24 hours @ 72° F
			Set time and Demold depend on temperature and relative humidity

## Physical Properties

	Test Method	Value
Hardness	ASTM 2240-85	30 Shore A
Tensile strength	ASTM D-412	621 psi
Elongation	ASTM D-412	786 %
Modulus (100 %)	ASTM D-412	110 psi
Modulus (200 %)	ASTM D-412	181 psi
Modulus (300 %)	ASTM D-412	266 psi
Tear strength	ASTM D-624	144 lb./in.
Cubic inch per lb. of product		25.81
Color		Green

## Shelf Life

GTP Elastomer 30 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

## Packaging

GTP Elastomer 30 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP Elastomer 30 has a non-hazardous rating for shipping.

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# GTP Elastomer 360

## Description

GTP Elastomer 360 is a versatile, two component liquid castable polyurethane elastomer. Individual components are colored for visually determining complete mixing. GTP Elastomer 360 can be used for rapid production of parts or molds with excellent physical properties. Some features include good grease and oil resistance, good flow into fine detail, good adhesion between pours and good dimensional stability. It is also tough, with high tear strength, is rapid curing, insensitive to typical environmental moisture, and has long mold storage life, low viscosity and low shrinkage.

## Typical Properties

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	4500 cps	1.083	9.03 lb.
Component B	500 cps	1.053	8.78 lb.
Mixed	3500 cps	1.07	8.94 lb.
Mixing Ratio	By volume		100 parts A to 51.4 parts B
	By weight		100 parts A to 50 parts B
Work life			12 minutes @ 72° F
Cure time			24 hours @ 72° F

Set time and Demold depend on temperature and relative humidity

## Physical Properties

	Test Method	Value
Hardness	ASTM 2240-85	55 Shore A
Tensile strength	D-412-68	1494 psi
Elongation	D-412-68	650 %
Modulus (100 %)	D-417-68	252
tear strength	D-624 die C	220 lb./in.
Shrinkage, inches	D-2566	0.0015
Color		Transparent Blue

## Shelf Life

GTP Elastomer 360 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

## Packaging

GTP Elastomer 360 is available in convenient 3-quart, 3-gallon, 15-gallon, 40-gallon and 80-gallon kits. GTP Elastomer 360 has a non-hazardous rating for shipping.



# GTP Urethane Elastomer 40

**Description** GTP Elastomer 40 is a versatile, two component liquid castable polyurethane elastomer. GTP Elastomer 40 combines high strength and elongation with excellent chemical resistance to create durable flexible molds or parts. GTP Elastomer 40 is insensitive to typical moisture, has low viscosity, high strength and low durometer. It also has low residual surface tack. Some features of GTP Elastomer 40 include, good grease and oil resistance, good flow into fine detail, and easy 1 to 1 mix ratio by weight, good dimensional stability, and good adhesion between pours. It is tough, with high tear strength and insensitive to inhibition.

**Application** A rubber mold is constructed by pouring GTP Elastomer 40 around an existing piece of art, a clay master or industrial part, which has been coated with molding release agent. Within hours the GTP Elastomer 40 molding material can be removed from the objects surface. The finished mold can be refilled with a variety of casting materials to make hard or flexible parts.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2700 cps	1.09	9.08 lb.
Component B	1200 cps	1.03	8.73 lb.
Mixed	2000 cps	1.07	8.90 lb.
Mixing Ratio		By volume	96 parts A to 100 parts B
		By weight	1 part A to 1 part B
Work life			20 minutes @ 72° F
Cure time			24 hours @ 72° F
			Set time and Demold depend on temperature and relative humidity

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240-85	40 Shore A
Tensile strength	ASTM D412	988 psi
Elongation	ASTM D412	555 %
Modulus (100%)	ASTM D412	202 psi
Modulus (200%)	ASTM D412	344 psi
Modulus (300%)	ASTM D412	520 psi
Tear strength	ASTM D624	223 lb./in.
Cubic inch per lb. of product		25.96
Color		Blue

**Shelf Life** GTP Elastomer 40 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP Elastomer 40 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP Elastomer 40 has a non-hazardous rating for shipping



# GTP Urethane Elastomer 50

## Description

GTP Elastomer 50 is a versatile, two component liquid castable polyurethane elastomer. GTP Elastomer 50 combines high strength and elongation with excellent chemical resistance to create durable flexible molds and parts. It is insensitive to typical environmental moisture, has low viscosity, high strength and low residual surface tack. Some features of GTP Elastomer 50 include good grease and oil resistance, good flow into fine detail, good dimensional stability and good adhesion between pours. It is also tough, with high tear strength and is insensitive to inhibition.

## Typical Properties

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2700 cps	1.08	9.04 lb.
Component B	1200 cps	1.04	8.63 lb.
Mixed	2000 cps	1.06	8.83 lb.
Mixing Ratio	By volume By weight		1 part A to 1 part B 1 part A to 1 part B
Work life			7 minutes @ 72° F
Cure time			24 hours @ 72° F

Set time and Demold depend on temperature and relative humidity

## Physical Properties

	Test Method	Value
Hardness	ASTM 2240-85	50 Shore A
Tensile strength	ASTM D-412	706 psi
Elongation	ASTM D-412	390 %
Modulus (100 %)	ASTM D-412	272 psi
Modulus (200 %)	ASTM D-412	407 psi
Modulus (300 %)	ASTM D-412	556 psi
Tear strength	ASTM D-624	200 lb./in.
Cubic inch per lb. of product		26.16
Color		Transparent Amber

## Shelf Life

GTP Elastomer 50 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

## Packaging

GTP Elastomer 50 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP Elastomer 50 has a non-hazardous rating for shipping.

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# GTP Urethane Elastomer 55

## Description

GTP Elastomer 55 is a versatile, two component liquid castable polyurethane elastomer. GTP Elastomer 55 combines high strength and elongation with excellent chemical resistance to create durable flexible molds or parts. It is insensitive to typical environmental moisture, has high strength and low viscosity. Some features of GTP Elastomer 55 include good grease and oil resistance, good flow into fine detail, good dimensional stability and good adhesion between pours. It is also tough, with high tear strength and is insensitive to inhibition.

## Typical Properties

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2500 cps	1.07	8.93 lb.
Component B	2000 cps	1.05	8.74 lb.
Mixed	2200 cps	1.06	8.84 lb.
Mixing Ratio	By volume By weight		100 parts A to 98 parts B 1 part A to 1 part B
Work life			10 minutes @ 72° F
Cure time			24 hours @ 72° F

Set time and Demold depend on temperature and relative humidity

## Physical Properties

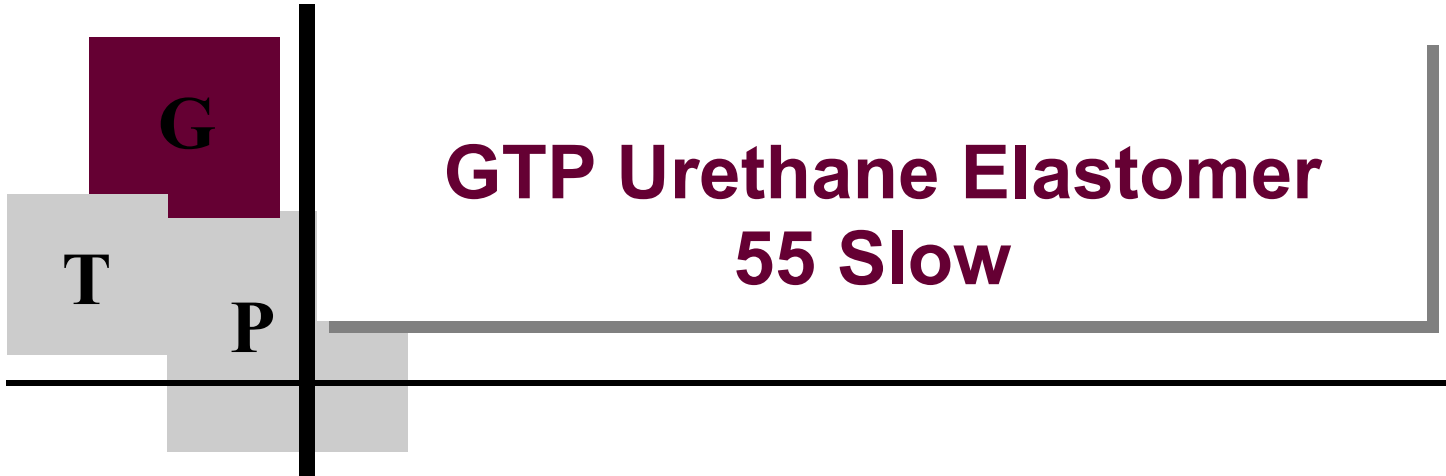
	Test Method	Value
Hardness	ASTM 2240-85	55 Shore A
Tensile strength	ASTM D-412	1624 psi
Elongation	ASTM D-412	495 %
Modulus (100 %)	ASTM D-412	427 psi
Modulus (200 %)	ASTM D-412	663 psi
Modulus (300 %)	ASTM D-412	945 psi
Tear strength	ASTM D-624	360 lb./in.
Cubic inch per lb. of product		26.13
Color		Gray

## Shelf Life

GTP Elastomer 55 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

## Packaging

GTP Elastomer 55 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP Elastomer 55 has a non-hazardous rating for shipping.



# GTP Urethane Elastomer 55 Slow

**Description** GTP Elastomer 55 slow is a versatile, two component liquid castable polyurethane elastomer. GTP Elastomer 55 slow combines high strength and elongation with excellent chemical resistance to create durable flexible molds or parts. It is insensitive to typical environmental moisture, has high strength and low viscosity. Some features of GTP Elastomer 55 slow include good grease and oil resistance, good flow into fine detail, good dimensional stability and good adhesion between pours. It is also tough, with high tear strength and is insensitive to inhibition.

<u>Typical Properties</u>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2500 cps	1.07	8.93 lb.
Component B	2000 cps	1.05	8.74 lb.
Mixed	2200 cps	1.06	8.84 lb.
Mixing Ratio	By volume By weight		100 parts A to 98 parts B 1 part A to 1 part B
Work life			12-14 minutes @ 72° F
Cure time			24 hours @ 72° F
Set time and Demold depend on temperature and relative humidity			

<u>Physical Properties</u>	Test Method	Value
Hardness	ASTM 2240-85	55 Shore A
Tensile strength	ASTM D-412	1624 psi
Elongation	ASTM D-412	495 %
Modulus (100 %)	ASTM D-412	427 psi
Modulus (200 %)	ASTM D-412	663 psi
Modulus (300 %)	ASTM D-412	945 psi
Tear strength	ASTM D-624	360 lb./in.
Cubic inch per lb. of product		26.13
Color		Gray

**Shelf Life** GTP Elastomer 55 slow is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP Elastomer 55 slow is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP Elastomer 55 slow has a non-hazardous rating for shipping.

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# GTP Urethane Elastomer 65

**Description** GTP Elastomer 65 is a versatile two component liquid castable polyurethane elastomer. GTP Elastomer 65 combines high strength and elongation with excellent chemical resistance to create durable flexible molds or parts. It is insensitive to typical environmental moisture, has high strength and low viscosity. Some features for GTP Elastomer 65 include good grease and oil resistance, good flow into fine detail, good dimensional stability and good adhesion between pours. It is also tough, with high tear strength and insensitive to inhibition.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2700 psi	1.07	8.93 lb.
Component B	2000 psi	1.05	8.72 lb.
Mixed	2300 psi	1.06	8.82 lb.
Mixing Ratio	By volume By weight		100 parts A to 98 parts B 1 part A to 1 part B
Work life			10 minutes @ 72° F
Cure time			24 hours @ 72° F

Set time and Demold depend on temperature and relative humidity

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240-85	65 Shore A
Tensile strength	ASTM D-412	1700 psi
Elongation	ASTM D-412	480 %
Modulus (100 %)	ASTM D-412	437 psi
Modulus (200 %)	ASTM D-412	675 psi
Modulus (300 %)	ASTM D-412	960 psi
Tear strength	ASMT D-624	375 lb./in.
Cubic inch per lb. of product		26.19
Color		Beige

**Shelf Life** GTP Elastomer 65 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP Elastomer 65 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits. GTP Elastomer 65 has a non-hazardous rating for shipping.

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# GTP Urethane Elastomer 70

**Description** GTP Elastomer 70 is a versatile, two component liquid castable polyurethane elastomer. GTP Elastomer 70 combines high strength and durability with easy processing at room temperature. Ultrathane GTP Elastomer 70 can be used for casting urethane parts or flexible molds. Some features for GTP Elastomer 70 include good grease and oil resistance, good dimensional stability, rapid room temperature cure as well as rapid set and demold. It is tough, with high tear strength and elongation, is insensitive to inhibition and insensitive to typical environmental moisture.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2700	1.08	9.03
Component B	2200	1.04	8.66
Mixed	2400	1.07	8.90
Mixing Ratio	By volume By weight		100 parts A to 52 parts B 100 parts A to 50 parts B
Work life			5 – 7 min. @ 77° F
Cure time			24 hours @ 72° F
			Set time and Demold depend on temperature and relative humidity

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240-85	70-73 Shore A
Tensile strength	ASTM D-412-68	2300 psi
Elongation	ASTM D-412-68	450 %
Shrinkage, inches	D-2566 0	.0015
Tear strength	ASTM D-624 die C	175 lb./in.
Color		Medium Blue

**Shelf Life** GTP Elastomer 70 is shipped from the factory in sealed containers. The containers should be stored in a cool, dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP Elastomer 70 is available in convenient 3-quart, 3-gallon, 15-gallon, 45-gallon and 90-gallon kits. GTP Elastomer 70 has a non-hazardous rating for shipping.



# GTP Urethane Elastomer 85 F

**Description** GTP Elastomer 85F is a versatile, two component liquid castable polyurethane elastomer. GTP Elastomer 85F combines high strength and durability with easy processing at room temperature. GTP Elastomer 85F can be used for casting urethane parts or flexible molds. Some features of GTP Elastomer 85F include good grease and oil resistance, good flow into fine detail and good dimensional stability. It is tough, with high tear strength and elongation. It has rapid room temperature cure, set and demold and is insensitive to inhibition and typical environmental moisture.

**Application** GTP Elastomer 85F provides for rapid mold production and excellent durability. Our urethane molding rubbers provide the highest tensile strength and tear resistance in the industry. Rubber molds are an easy low cost method of manufacturing a variety of concrete and plaster display items as well as industrial wheels, bumpers and seals. A rubber mold is constructed by pouring GTP Elastomer 85F around an existing piece of art, a clay master or industrial part, which has been coated with molding release agent. Within hours the GTP Elastomer 85F molding material can be removed from the objects surface. The finished mold can be refilled with a variety of casting materials to make hard or flexible parts.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2700	1.084	9.04
Component B	2000	1.033	8.61
Mixed	2300	1.07	8.90
Mixing Ratio	By volume	100 parts A to 52 parts B	
	By weight	100 parts A to 50 parts B	
Work life		8 – 10 min. @ 72° F	
Cure time		24 hours @ 72° F	
	Set time and Demold depend on temperature and relative humidity		

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240-85	80-85 Shore A
Tensile strength	D-412-68	2300 psi
Elongation	D-412-68	450 %
Tensile modulus		2300 psi
Tear strength	D-624 die C	175 lb./in.
Shrinkage, inches	D-2566	0.0015
Color		Medium Blue

**Shelf Life** GTP Elastomer 85F is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP Elastomer 85F is available in convenient 3-quart, 3-gallon, 15-gallon, 45-gallon and 90-gallon kits. GTP Elastomer 85F has a non-hazardous rating for shipping.



# GTP Urethane Elastomer 90

**Description** GTP Elastomer 90 is a versatile, two component liquid castable polyurethane elastomer. TureCast 90 combines high strength and elongation with excellent chemical resistance to create durable flexible molds or parts. GTP Elastomer 90 is insensitive to typical environmental moisture and sets rapidly. Some features of GTP Elastomer 90 include good grease and oil resistance, good flow into fine detail, good dimensional stability and good adhesion between pours. It is tough, with high tear strength and is insensitive to inhibition.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2700	1.08	9.04
Component B	2000	1.11	9.25
Mixed	2300	1.09	9.08
Mixing Ratio	By volume By weight		100 parts A to 24.4 parts B 4 parts A to 1 part B
Work life			10 min. @ 72° F
Cure time			24 hours @ 72° F

Set time and Demold depend on temperature and relative humidity

<b>Physical Properties</b>	Test Method	Value
Hardness	ASTM 2240-85	90 Shore A
Tensile strength	ASTM D-412	2500 psi
Elongation	ASTM D-412	350 %
Cubic inch per lb. of product		25.44
Tear strength	ASTM D-624	375 lb./in.
Color		Beige

**Shelf Life** GTP Elastomer 90 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** GTP Elastomer 90 is available in 1.25-gallon, 6.22-gallon and 62-gallon kits. GTP Elastomer 90 has a non-hazardous rating for shipping.



# GTP UltraKlear 9015

**Description** UltraKlear 9015 is a very low viscosity, two component urethane-molding compounds. When fully cured Crystal Cast 9015 forms an extremely rigid, absolutely clear plastic. UltraKlear reproduces realistic “Glass Like” appearance when molded in silicone rubber molds. UltraKlear 9015 can be used to manufacture “non yellowing” colored parts that require ultraviolet stability. Vacuum degassing is recommended to ensure maximum clarity. Features include: extreme clarity, non-yellowing, low viscosity, and rapid curing.

**Application** Component A and component B are supplied in 1 or 5 gallon containers. Component B should be thoroughly mixed before using. Compound A does not need mixing. For best bubble free results, work in a low humidity air-conditioned environment.

Carefully measure out Component A (100 parts) to Component B (60 parts) by weight in separate containers. Pour together and mix 1 to 2 minutes using a flat metal spatula, never use wood. Do not use round or square stir rods. For batch sizes larger than ½ gallon use a 12-inch “Jiffy Mixer” (available from GT-Products) and electric hand drill. Carefully scrape down sides and bottom of container to include all of component A and B. Mixing containers should be plastic or metal never use wood or paper as these materials absorb water which will cause unwanted bubbles. Small batch sizes can cause mixing problems. Batch size should not be less than 100 grams for best result. Degas less than 27 Hg of vacuum until mixtures is mostly bubble free (about 2 to 3 minutes). It is extremely important to prevent moisture contamination of the liquid component. Purge both component A and Component B container with dry gas (Poly Dry, available from GT Products) after each use.

UltraKlear 9015 is fully cured in 24 hours at 72° F. Colder curing temperatures will lengthen cure times. Warmer temperatures will greatly reduce working and cure times. Infrared lamps or radiant heat ovens will greatly reduce the time needed to attain full cure on Domed Labels. For clean-up use methyl ethyl ketone (M.E.K.), acetone or mineral spirits.

*UltraKlear 9015 cont.*

**Typical Properties**

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	450	1.074	8.96 lbs.
Component B	850	1.041	8.67 lbs.
Mixed	600	1.062	8.85 lbs.

Mixing Ratio	By volume	100 parts A to 62 parts B
	By weight	100 parts A to 60 parts B

Work life	2 – 3 minutes @ 72° F
Demold	30 minutes @ 72° F
Cure time	24 hours @ 72° F

Set time and Demold depend on temperature and relative humidity

**Physical Properties**

	Value
Hardness	80 Shore D
Tensile strength	11,000
Elongation	1.5%
Linear shrinkage	.0015 in./in.
Heat deflection	120° F
Cubic inch per lb. of product	0.03831 (17.39) grams
Color	Clear

**Shelf Life**

UltraKlear 9015 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

UltraKlear 9015 is available in convenient 1-quart, 1.6-gallon and 8-gallon kits. UltraKlear 9015 has a non-hazardous rating for shipping.

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# GTP UltraKlear 9016

**Description** UltraKlear 9016 is a very low viscosity, urethane-molding compound. When fully cured UltraKlear 9016 forms a tough resistant absolutely clear plastic. UltraKlear 9016 reproduces realistic “Glass Like” appearance when molded in silicone rubber molds. It is rapid curing with high strength and durometer.

**Application** UltraKlear 9016 is fully cured in 24 hours at 72° F. Colder curing temperatures will lengthen cure times. Warmer temperatures will greatly reduce working and cure times. For clean-up use methyl ethyl ketone (M.E. K.), acetone, mineral spirits.

**Mix Ratio** Component A and component B are supplied in 1 and 5 gallon plastic containers. Component B should be thoroughly mixed before using. Compound A does not need mixing. Carefully weigh out component A (100 parts) to component B (67 parts). Mix for 1 to 2 minutes then pour into mold.

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	450 cps	1.07	8.93 lb.
Component B	600 cps	1.05	8.76 lb.
Mixed	520 cps	1.06	8.86 lb.
Mixing Ratio	By volume		100 parts A to 68 parts B
	By weight		100 parts A to 67 parts B
Work life			15 minutes @ 72° F
Demold			2 hours @ 72° F
Cure time			24 hours @ 72° F

Set time and Demold depend on temperature and relative humidity

<b>Physical Properties</b>	Value
Hardness	80 Shore D
Tensile strength	10,500
Elongation	4.5 %
Cubic inch per lb. of product	26.07
Linear shrinkage	.0015 in./in.
Deflection	150° F
Machinability	Excellent
Compression	4,000

<b>Optical Properties</b>	Value
n (D):	1.5075
n (F) – n (C):	0.008579
v (constringency):	59.156
UVB:	24%
UVA:	68%
Visible:	95%

Color

Clear

**Shelf Life** UltraKlear 9016 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** UltraKlear 9016 is available in convenient 1-quart, 1.68-gallon and 8-gallon kits. UltraKlear 9016 has a non-hazardous rating for shipping.

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# GTP UltraKlear 9024

**Description** UltraKlear 9024 is a very low viscosity, urethane-molding compound specifically formulated for casting large parts. When fully cured UltraKlear 9024 forms a tough resistant absolutely clear plastic. UltraKlear reproduces realistic “Glass Like” appearance when molded in silicone rubber molds. Vacuum degassing is recommended to ensure maximum clarity.

**Application** UltraKlear 9024 is fully cured in 24 hours at 72° F. Colder curing temperatures will lengthen cure times. Warmer temperatures will greatly reduce working and cure times. For clean-up use methyl ethyl ketone (M.E. K.), acetone or mineral spirits.

**Mix Ratio** Component A and component B are supplied in 1 to 5 gallon plastic containers. Component B should be thoroughly mixed before using. Component A does not need mixing. Carefully measure out component A (100 parts) to component B (100 parts) by volume mix for 1 to 2 minutes then pour into mold. Degas less than 27 Hg of vacuum until mixture is mostly bubble free (about 2 to 3 minutes).

<b>Typical Properties</b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	450 cps	1.075	8.96 lb.
Component B	550 cps	1.047	8.73 lb.
Mixed	500 cps	1.06	8.85 lb.
Mixing Ratio	By volume		1 part A to 1 part B
	By weight		100 parts A to 98 parts B
Work life			30 minutes @ 72° F (35 lb. mass)
Demold			4 – 6 hours @ 72° F
Cure time			24 hours @ 72° F

Set time and Demold depend on temperature and relative humidity

<b>Physical Properties</b>	Value
Hardness	75 Shore D
ensile strength	10,500
Elongation	4.5 %
Linear shrinkage	.0015 in./in.
Heat deflection	150° F
Machinability	Excellent
Cubic inch per lb. of product	0.03825 (17.368 grams)
Compression	4,000
Color	Clear

<b>Optical Properties</b>	n (D): 1.4968	n (F) – n (C): 0.008408
	v (constringency): 59.0856	UVB: 3%
	UVA: 74%	Visible: 95%

**Shelf Life** UltraKlear 9024 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** UltraKlear 9024 is available in convenient 2-gallon, 10-gallon, 50-gallon and 80-gallon kits. UltraKlear 9024 has a non-hazardous rating for shipping.



**Description** UltraKlear 9028 is a very low viscosity; urethane-molding compound specifically formulated for casting parts or specialty domed labels. When fully cured UltraKlear 9028 forms a tough resistant absolutely clear plastic. UltraKlear reproduces realistic “Glass Like” appearance when molded in silicone rubber molds. Vacuum degassing is recommended to ensure maximum clarity.

**Application** UltraKlear 9028 is fully cured in 24 hours at 72° F. Colder curing temperatures will lengthen cure times. Warmer temperatures will greatly reduce working and curing times.

**Mix Ratio** Component A and component B are supplied in 1 or 5-gallon plastic containers. Component B should be thoroughly mixed before using. Component A does not need mixing. Carefully measure out component A (100 parts) to component B (100 parts) by volume. Mix for 1 to 2 minutes then pour into mold. Degas less than 27 Hg of vacuum until mixture is mostly bubble free (about 2 to 3 minutes). For clean-up use methyl ethyl ketone (M.E.K.), acetone or mineral spirits.

### **Curing & Molding**

Many parts produced from UltraKlear 9028 are perfect when they are pulled from the mold, but to make the most perfect part the following procedure is recommended.

To make absolutely the best “glass” like cast using UltraKlear 9028 the mold should be made from a Platinum cured silicone mold. .

Parts that are cured in a “pressure pot” under 75 lb. of “dry air” pressure have a greatly enhanced clarity, totally free of any unwanted bubbles.

Once a part has fully cured (24 hours at 72° F) and is removed from the mold, remove unwanted mold lines and any surface flaws by lightly sanding. Wipe down the part with M.E. K. (Methyl Ethyl Ketone) to remove any powder produced from sanding and oil from handling.

To achieve a perfect surface the part should be spray coated with a two component clear coat. We recommend our TopCoat #6 as a final coat used with 1% anti-fish eye additive from PPG Automotive Paint Supply.

*GTP UltraKlear 9028 cont.*

**Typical Properties**

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	450 cps	1.074	8.96 lb.
Component B	550 cps	1.042	8.73 lb.
Mixed	500 cps	1.06	8.82 lb.
Mixing Ratio	By volume By weight		1 part A to 1 part B 100 parts A to 97 parts B
Work life		15 minutes @ 72° F (300 gram mass)	
Demold time		2 to 4 hours @ 72° F	
	Set time and Demold depend on temperature and relative humidity		

**Physical Properties**

	Value
Hardness	75 Shore D
Tensile strength	10,500 psi
Elongation	4.5 %
Linear shrinkage	.0015 in/in
Heat deflection	150° F
Machinability	Excellent
Cubic inch/lb. of product	0.03818 (17.334 grams)
Compression	4000
Color	Clear

**Optical Properties**

n (D): 1.4968  
n (F) – n (C): 0.008408  
v (constringency): 59.0856  
UVB: 3%  
UVA: 74%  
Visible: 95%

**Shelf Life**

UltraKlear 9028 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

UltraKlear 9028 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits.  
UltraKlear 9028 has a non-hazardous rating for shipping.



# GTP UltraKlear 9030

**Description** UltraKlear 9030 is a very low viscosity, two component urethane-molding compound. When fully cured UltraKlear 9030 forms a flexible, absolutely clear plastic. UltraKlear reproduces realistic “Glass Like” appearance when molded in silicone rubber molds. UltraKlear 9030 can be used to manufacturing “non-yellowing” colored parts that require ultraviolet stability. In addition UltraKlear 9030 can be used as a deep dome coating for plastic or paper labels. Vacuum degassing is recommended to ensure maximum clarity.

**Application** UltraKlear 9030 is fully cured in 24 hours at 72 F. Colder curing temperatures will lengthen cure times. Warmer temperatures will greatly reduce working and curing times. Infrared lamps or radiant heat ovens will greatly reduce the time needed to attain full cure on domed labels. For clean-up use methyl ethyl ketone (M.E.K.), acetone or mineral spirits.

**Mix Ratio** Component A and component B are supplied in 1 to 5 gallon containers. Component B should be thoroughly mixed before using. Component A does not need mixing. For best bubble free results, work in a low humidity air-conditioned environment. Carefully measure out component A (1 part) to component B (1 part) by volume in separate containers. Pour together and mix from 1 to 2 minutes using flat metal spatula and never use wood. Do not use round or square rods. For batch sizes larger than ½ gallon use a 12-inch “Jiffy mixer” (available from GT Products), and electric hand drill. Carefully scrape down sides and bottom of container to include all of component A and B. Mixing containers should be plastic or metal never use wood or paper as these materials absorb water which will cause unwanted bubbles. Small batch sizes can cause mixing problems. Batch size should not be less than 100 grams for best result. Degas less than 27 Hg of vacuum until mixture is mostly bubble free (about 2 to 3 minutes). UltraKlear 9030 can be applied by hand or automatic dispensing equipment. For low volume hand application, mix liquids similar to the method describe for “casting” and apply to label surface using a plastic syringe. It is extremely important to select and prepare the proper label material before apply UltraKlear 9030. For proper labels “coated paper” gives the best result. Never use uncoated paper. Labels printed on laser printer with water based inks must be clear coat shellacked and oven dried at 120 F for 1 to 2 hours to prevent incompatibility or “bubble problems”. Unwanted bubbles can occur from mixing or moisture contamination. Labels printed on polycarbonate plastic sheet with solvent-based ink will give the least problems and the best results. It is extremely important to prevent moisture contamination of the liquid component. Purge both component A and component B container with dry gas “Poly Dry” (available form GT Products) after each use.

Typical Properties	Viscosity	Specific Gravity	Weight Per Gallon
Component A	450 cps	1.092	9.10 lb.
Component B	550 cps	1.064	8.87 lb.
Mixed	500 cps	1.08	8.98 lb.
Mixing Ratio	By volume By weight		1 part A to 1 part B 100 parts A to 98 parts B
Work life			30 minutes @ 72° F
Demold			4 – 6 hours @ 72° F
Set time			24 hours @ 72° F
	Set time and Demold depend on temperature and relative humidity		

**Physical Properties**

	Value
Hardness	85 Shore A
Tensile strength	2,000
Elongation	20 %
Linear shrinkage	.0015 in./in.
Heat deflection	120° F
Cubic inch per lb. of product	0.03888 (17.65 grams)
Color	Clear

**Shelf Life** UltraKlear 9030 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** UltraKlear 9030 is available in convenient 2-quart, 2-gallon, 10-gallon, 60-gallon and 100-gallon kits.  
UltraKlear 9030 has a non-hazardous rating for shipping.



# GTP UltraKlear 9035

## **Description**

UltraKlear 9035 is a very low viscosity, two component urethane-molding compounds. When fully cured UltraKlear 9035 forms a flexible, absolutely clear plastic. UltraKlear reproduces realistic “Glass Like” appearance when molded in silicone rubber molds. UltraKlear 9035 can be used to manufacture “non yellowing” colored parts that require ultraviolet stability. In addition UltraKlear 9035 can be used as a deep dome coating for plastic or paper labels. Vacuum degassing is recommended to ensure maximum clarity. UltraKlear 9035 has the following features: Extreme Clarity, Non Yellowing, Low Viscosity, Rapid Curing, and Flexibility with High Strength.

## **Application**

(Casting) Component A and component B are supplied in 1 or 5 gallon containers. Component B should be thoroughly mixed before using. Compound A does not need mixing. For best bubble free results, work in a low humidity air-conditioned environment. Carefully measure out Component A (1 part) to Component B (2 parts) by volume or weight in separate containers. Pour together and mix for 1 to 2 minutes using a flat metal spatula (available from Industrial Polymers), never use wood. Do not use round or square stir rods. For batch sizes larger than ½ gallon use a 12-inch “Jiffy Mixer” (available from Industrial Polymers) and electric hand drill. Carefully scrap down sides and bottom of container to include all of component A and B. Mixing containers should be plastic or metal, never use wood or paper as these materials absorb water which will cause unwanted bubbles. Small batch sizes can cause mixing problems. Batch size should not be less than 100 grams for best result. Degas less than 27 Hg of vacuum until mixture is mostly bubble free (about 2 to 3 minutes).

(Label Doming) UltraKlear 9035 can be applied by hand or automatic dispensing equipment. For low volume hand application, mix liquids similar to the method described for “casting” and apply to label surface using a plastic syringe. It is extremely important to select and prepare the proper label material before applying UltraKlear 9035. For paper labels “coated paper” gives the best results. Never use uncoated paper. Labels printed on laser printers with standard water based inks must be clear coat shellacked and oven dried at 120 F for 1 to 2 hours to prevent incompatibility or “bubble problems”. Unwanted bubbles can occur from mixing or moisture contamination. Labels printed on polycarbonate plastic sheet with solvent-based ink will give the least problems and the best results.

It is extremely important to prevent moisture contamination of the liquid component. Purge both component A and component B container with dry gas (Poly Dry, available from GT Products) after each use. UltraKlear 9035 is fully cured in 24 hours at 72 F. Colder curing temperatures will lengthen cure times. Warmer temperatures will greatly reduce working and cure times. Infrared lamps or radiant heat ovens will greatly reduce the time needed to attain full cure on Domed Labels. For clean up use methyl ethyl ketone (M.E.K.), acetone or mineral spirits.

*UltraKlear 9035 cont.*

<b><u>Typical Properties</u></b>	Viscosity	Specific Gravity	Weight Per Gallon
Component A	450 cps	1.074	8.96 lb.
Component B	850 cps	1.074	8.96 lb.
Mixed	600 cps	1.074	8.96 lb
Mixing Ratio	By volume By weight		50 parts A to 100 parts B 50 parts A to 100 parts B
Work life			30 minutes @ 72 F
Demold time			4 to 6 hours @ 72 F
			Set time and Demold depend on temperature and relative humidity

<b><u>Physical Properties</u></b>	Value
Hardness	65 Shore A
Tensile strength	1500
Elongation	75 %
Linear shrinkage	.0015 in./in.
Heat deflection	120° F
Cubic inch per lb. of product	0.03878 (17.61 grams)
Color	Clear

**Shelf Life** UltraKlear 9035 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging** UltraKlear 9035 is available in convenient 3-quart, 3-gallon and 15-gallon kits. UltraKlear 9035 has a non-hazardous rating for shipping.



# GTP UltraKlear 9040

## **Description**

UltraKlear 9040 is a very low viscosity, two component urethane-molding compound. When fully cured UltraKlear 9040 forms a flexible, absolutely clear plastic. UltraKlear reproduces realistic “Glass Like” appearance when molded in silicone rubber molds. UltraKlear 9040 can be used to manufacture “non yellowing” colored parts that require ultraviolet stability. In addition UltraKlear 9040 can be used as a deep dome coating for plastic or paper labels. Vacuum degassing is recommended to ensure maximum clarity.

## **Application**

UltraKlear 9040 is fully cured in 24 hours at 72 F. Colder curing temperatures will lengthen cure times. Warmer temperatures will greatly reduce working and curing times. Infrared lamps or radiant heat ovens will greatly reduce the time needed to attain full cure on domed labels. For clean-up use methyl ethyl ketone (M.E.K.), acetone or mineral spirits.

## **Mix Ratio**

Component A and component B are supplied in 1 to 5 gallon containers. Component B should be thoroughly mixed before using. Component A does not need mixing. For best bubble free results, work in a low humidity air-conditioned environment. Carefully measure out component A (1 part) to component B (2 parts) by volume or weight in separate containers. Pour together and mix from 1 to 2 minutes using a flat metal spatula (never use wood). Do not use round or square stir rods. For batch sizes larger than ½-gallon use a 12-inch “Jiffy mixer” (available from GT Products) and an electric hand drill. Carefully scrape down sides and bottom of container to include all of component A and B. Mixing containers should be plastic or metal never use wood or paper as these materials absorb water which will cause unwanted bubbles. Small batch sizes can cause mixing problems. Batch size should not be less than 100 grams for best results. Degas under 27 Hg of vacuum until mixture is mostly bubble free (about 2 to 3 minutes). UltraKlear 9040 can be applied by hand or automatic dispensing equipment. For low volume hand application, mix liquids similar to the method described for “casting” and apply to label surface using a plastic syringe. It is extremely important to select and prepare the proper label material before applying UltraKlear 9040. For paper labels “coated paper” gives the best results. Never use uncoated paper. Labels printed on laser printers with standard water based inks must be clear coat shellacked and oven dried at 120 F for 1 to 2 hours to prevent incompatibility or “bubble problems”. Unwanted bubbles can occur from mixing or moisture contamination. Labels printed on polycarbonate plastic sheet with solvents-based ink will give the least problems and the best results. It is extremely important to prevent moisture contamination of the liquid component. Purge both component A and component B container with dry gas (available from GT Products) after each use.

Typical Properties	Viscosity	Specific Gravity	Weight Per Gallon
Component A	350 cps	1.0987	9.17 lb.
Component B	750 cps	1.0987	9.17 lb.
Mixed	500 cps	1.0987	9.17 lb.
Mixing Ratio	By volume		50 parts A to 100 parts B
	By weight		50 parts A to 100 parts B
Work life			45 minutes @ 72° F
Demold time			4 to 6 hours @ 72° F
			Set time and Demold depend on temperature and relative humidity
Cubic inch per lb. of product			0.03965 (18.00 grams)

**Physical Properties**

Value

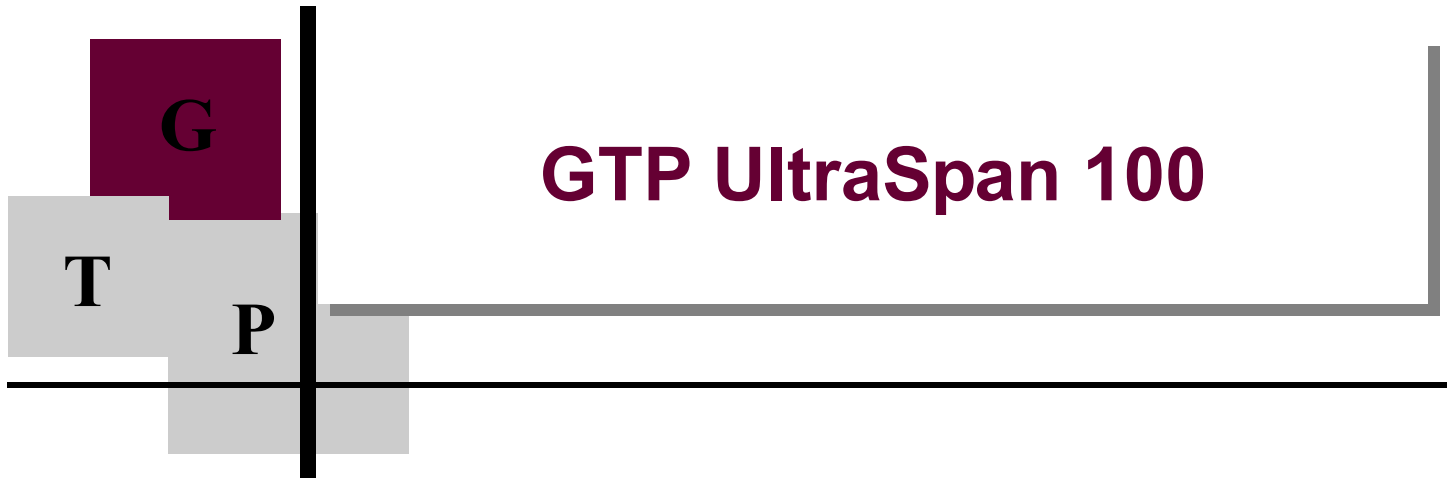
Hardness	40 Shore A
Tensile strength	1,200
Elongation	100 %
Linear shrinkage	.0015 in./in.
Heat deflection	120° F
Color	Clear

**Shelf Life**

UltraKlear 9040 is shipped from the factory in sealed containers. The containers should be stored in a cool dry area that is protected from direct sunlight and moisture. Storage temperatures should not exceed 80° F. The shelf life of factory sealed containers stored under these conditions is six months. Containers that have been opened should be resealed immediately after material has been removed in order to prevent solvent evaporation.

**Packaging**

UltraKlear 9040 is available in convenient 3-quart, 3-gallon and 15-gallon kits. UltraKlear 9040 has a non-hazardous rating for shipping.



### **Description**

UltraSpan 100 is a unique two component, Flexible, 100% solids (contains no V.O.C.), polyurethane elastomeric compound. UltraSpan 100, when fully cured provides a simple method for expanding three dimensionally molded parts. Expanding parts is done by simply molding the part with UltraSpan 100 to from a rubber master. After curing 24 hours at room temperature the molded UltraSpan 100 part is soaked in room temperature water and allowed to expand. Full expansion is 161% larger than the original part. Full expansion of parts can be achieved in 5 to 14 days depending on cross section thickness of the part. Thicker cross sections take longer while thinner cross sections require less time.

### **Application**

UltraSpan 100 is packaged in convenient 3-quart, 3-gallon or 15-gallon kits. Liquid containers should be maintained at 72° F for best results. Warmer temperatures will decrease working life; cooler temperatures will increase application time. Choose a work area that is free from visible moisture and capable of maintaining a temperature range of 70° F to 90° F. After temperature stabilizing the liquid component A and component B to 70° F to 80° F, remove the lids of each container and stir Component B thoroughly using a flat hand held spatula or jiffy mixer and electric drill (both are available from Industrial Polymers, Inc.). Gloves, eye protection and respirators must be worn during spray application (see Industrial Polymers material safety data sheet for more details).

### **Mix Ratio**

Mix two (2) parts of component A to one (1) part of component B by weight (use maximum batch size of no more than two (2) quarts of component A to one (1) quart of component B [2/3-gallon total mix]). Pour both components into a clean one (1) gallon plastic pail and quickly mix using a spatula for batch sizes of ½ gallon or less or jiffy mixer and electric drill for larger batch sizes, take care to scrape side of pail with a flat spatula to include all of the unmixed liquid (do not use square or round rod as mixers). Mix for about 1 minute and quickly pour into the prepared mold. After about 6 to 8 minutes UltraSpan 100 thickens to a gel like consistency. It is important to have all pouring completed before this occurs.

### **Mold preparation**

UltraSpan 100 can be molded in almost any kind of mold as long as it is fully prepared before filling with uncured polymer. Release agents used in the molding process inhibit the absorption of water thus slow down the expansion of the part. All waxes and release agents should be thoroughly removed with mineral spirits or acetone before the part is soaked in water. Parts molded in silicone mold require no preparation before soaking. All surfaces should be free of dirt and visible moisture. Depending on relative humidity and temperature, parts can be handled in 1 to 2 hours. Full cure is attained in 24 hours at 72° F.

### **Expanded Parts**

Once the UltraSpan parts have expanded to the desired size a final mold should be made as soon as possible. If mold is made from flexible RTV urethane or silicone rubber, a light layer of Vaseline petroleum jelly should be applied to prevent any unwanted reaction of the absorbed water in the UltraSpan 100. Expanded UltraSpan 100 parts will shrink back to their original size if allow to dry out.

### Typical Properties

	Viscosity	Specific Gravity	Weight Per Gallon
Component A	2000 cps	1.103	9.20 lb.
Component B	600 cps	1.0207	8.51 lb.
Mixed	1200 CPS	1.0747	8.96 lb.
Mixing Ratio	By volume	100 parts A to 54 parts B	
	By weight	100 parts A to 50 parts B	
Work life		6 to 8 minutes @ 72° F	
Cure time		24 hours @ 72° F	

\*Cure time and demold depend on temperature and relative humidity

### Physical Properties

	Test Method	Value
Hardness	ASTM 2240-85	40 Shore A
Elongation	ASTM D 412	100 %
Expansion Rate	@ 14 day/ 72° F	161 %

### Storage

#### Shelf Life

HydroSpan 100 liquids should be stored in the original, unopened containers in temperature between 75° F and 85° F (24° C and 29° C). Shelf life of materials when kept in unopened sealed containers, at the recommended storage temperature is six months. Containers should not be opened until ready for immediate use. When resealing opened containers purge with dry gas, **Poly Dry** (available from GT Products, Inc.). To avoid air entrapment, undue agitation of containers should be avoided.

### Packaging

HydroSpan 100 is available in convenient 3-quart, 3-gallon and 15-gallon kits.  
HydroSpan 100 has a non-hazardous rating for shipping

### Problem Solver

Problem	Reason	Solution
Material Sets too quickly	Liquid components too warm before using	Condition liquid to 72° F
		Purge liquid containers with Poly Dry after days use
Uneven color color rubs off	Color is not completely dispersed	Stir color into component B before adding component A
Surface bubbles	Moisture contamination	Application surface should be dry. Must be allowed to cure overnight in a dry environment.
Cured UltraSpan 100 will not expand	Mold release agent on surface	Clean cured parts with mineral spirits or acetone before soaking in water or Use Silicone molds
Sticky spots	Uneven mixing	Premix exactly 2 part A to 1 part B by Weight
		Do not mix more than ½ gallon by hand, larger batch sizes require a Jiffy mixer and electric drill. Use a flat spatula

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# GTP UltraSpan 400

## Description

UltraSpan 400 is a unique single component, flexible, 100% solids (contains no V.O.C.), polyurethane elastomeric compound. UltraSpan 400, when fully cured provides for simple method for reducing three dimensionally molded parts. Reduction of parts is done by simply molding the part with UltraSpan 400 to form a rubber master. After curing 30 minutes at room temperature the molded UltraSpan 400 part is removed from the mold and allowed to shrink at room temperature water. Full reduction is 51 % the original part i.e. (a 12 inch part will reduced to 6.12 inches). Full reduction of parts can be achieved in 5 to 14 days depending on cross section thickness of the part. Thicker cross sections take longer while thinner cross sections require less time.

## Application

Choose a work area that is free from visible moisture and capable of maintaining a temperature range of 70° F to 80° F. The liquid component of UltraSpan 400 should be temperature stabilizing to 72° F before beginning work. Warmer temperatures will decrease working life; cooler temperatures will increase application time. Gloves, and eye protection should be worn during application (see Industrial Polymers material safety data sheet for more details).

## Mix Ratio

Mix one (1) part of UltraSpan 400 to four (4) parts of water (best temperature is between 60° F and 70° F) by volume (use maximum batch size of no more than one (2) quarts of UltraSpan 400 to eight (8) quarts of water [2 ½ gallon total mix]). Pour both the water and UltraSpan 400 into a clean one (1) gallon plastic pail and quickly mix using a spatula for batch sizes of ½ gallon or less or Jiffy mixer and electric drill for larger batch sizes, take care to scrape side of pail with a flat spatula to include all of the unmixed liquid (do not use square or round rod as mixers). Mix for about 30 seconds and quickly pour into the prepared mold. After about 3 to 5 minutes UltraSpan 400 cures to a firm white gel.

## Mold preparation

UltraSpan 400 can be molded in almost any kind of mold as long as it is fully prepared before filling with uncured polymer. Release agents used in the molding process inhibit the evaporation of water thus slowing down the reduction process of the part. All waxes and release agents should be thoroughly removed with mineral spirits or acetone before the part is soaked in water. Parts molded in silicone mold require no preparation before soaking. All surfaces should be free of dirt and visible moisture. Depending on relative humidity and temperature, parts can be handled in 30 minutes.

## Reduced Parts

Once the UltraSpan 400 parts have reduced to the desired size, a final mold should be made as soon as possible. If molds are made from flexible RTV urethane or silicone rubber a light layer of Vaseline petroleum jelly should be applied to prevent any unwanted reaction of the absorbed water in the Ultra-Span 400. Reduced UltraSpan 400 parts maintain their reduced size if stored in a dry environment.

Typical Properties	Viscosity	Specific Gravity	Weight Per Gallon
HydroSpan400	4000 cps	1.104	9.20 lb.
Water	1 cps	1.00	8.33` lb.
Mixed	600 CPS	1.02	8.51 lb.
Mixing Ratio	By volume	1 part HydroSpan 400 to 4 parts water	
	By weight	26 parts HydroSpan 400 to 100 parts water	
Work life		3 to 5 minutes @ 72° F	
Cure time		30 minutes @ 72° F	
Cure time and demold time depend on temperature and relative humidity			

<b><u>Physical Properties</u></b>	Test Method	Value
Hardness Shore A	ASTM 2240-85	0 A initial / 5 A fully reduced
Reduction Rate	@ 14 day/ 72° F	51 % of the original size
	Color	White

**Storage**  
**Shelf Life**

UltraSpan 400 liquid should be stored in the original, unopened containers in temperatures between 75° F and 85° F (24° C and 29° C). Shelf life of materials when kept in unopened sealed containers at the recommended storage temperature is six months. Containers should not be opened until ready for immediate use. When resealing opened containers purge with dry gas, **Poly Dry** (available from GT Products, Inc.). To avoid air entrapment, undue agitation of containers should be avoided.

**Packaging** UltraSpan 400 is available in a convenient 1-quart and 1-gallon kits. UltraSpan 400 has a non-hazardous rating for shipping.

**Problem Solver**

Problem	Reason	Solution
Material sets too quickly	Liquid components too warm before using	Condition liquid to 72° F
		Use colder water, 40° F water can be used with no effect on the finished part
Clumps in liquid		Purge liquid containers with <b><u>“Poly Dry”</u></b> purging gas after each use
Cured HydroSpan 400 will not reduce	Mold release agent on surface	Clean cured parts with mineral spirits or acetone or use silicone molds
Sticky spots	Uneven mixing	Reduce batch size do not scrape the mixing container into the mold
		Do not mix more than ½ gallon by hand, larger batch sizes require a Jiffy mixer and electric drill
		Use a flat spatula

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# GT Products Hopper Gun

Many of GT Products customers have used this hopper gun with outstanding results. To use simply mix the silicone, pour the silicone into the hopper, and you are ready to spray.

The GT Products hopper gun makes spraying silicone ideal for larger projects. The sheering action of the nozzle allows good application with little dripping and waste. The aluminum internal parts make clean up easy.

1. Includes a large, easy to use trigger.
2. 3 different size nozzles for use with different viscosity materials.
3. Large hopper. (5.5 liter capacity).



# BCC Products inc



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BCC Kwik Kast II is an advanced fast cast polyurethane tooling system. BC 8002 exhibits exceptionally low viscosity, low odor and is color contrasted for uniform mix. It features low exotherm and minimal shrinkage. Kwik Kast II cures hard, yet more durable resulting in less brittle parts. Designed for constructing patterns, prototypes, duplications, negatives, low temperature vacuum form tools, tracing models, etc..

### Working Properties

Mix Ratio (by weight or volume)	1 to 1
Mixed Viscosity (1 minute)	1,000 cps
Brookfield (#2 spindle @ 20 rpm)	
Working Life, 24°C (75°F), 1 lb. mass	5 minutes
Color, Part A	Black
Part B	White
Cured	Gray/Aluminum
Demold Time, 24° (75°F)	1 to 2 hours

### Physical Properties

Specific Gravity (cured) gms/cc	1.62
Lbs./cu.in.	0.058
Cu. in./lb.	17.2
Hardness, Shore D (ultimate)	85
Compressive Strength	9,200 psi
Lineal Shrinkage	0.0008 in./in.

### Handling Properties

BCC's Kwik Kast II is a fast-setting, two part casting system which requires careful preparation prior to mixing parts A and B. Because Kwik Kast II contains components of high density there will be some separation at the bottom of each container. Using a paint shaker, jiffy mixer, or mixing spatula, resuspension of the ingredients is easily accomplished. Precaution should be taken to prevent any moisture contamination from containers or utensils. It is recommended that the work area be well ventilated and normal cleanliness and safety rules be observed. Avoid prolonged exposure to vapors and contact with skin.



BCC Like-Wood is a low viscosity, quick setting, easy to use casting material. A model or tool cast from Like-Wood will weigh 60% less than other filled urethane systems. Within 30 minutes after mixing and pouring, Like-Wood is ready to be carved, sanded, filed, tapped, etc.. Its amazing wood-Like characteristics make it ideal for light-weight backing of laminates and/or surface coats. Perfect for fast take offs, cores, engineering changes, temporary molds, patterns, models, prototypes, and bases for die models.

**Working Properties**

Mix Ratio (by weight or volume)	1 to 1
Viscosity (ASTM-D-2393)	
Part A	1,100 cps
Part B	1,900 cps
Working Life (1 lb. mass) 75° F	4 minutes
Gel Time (ASTM-D-2471)	6 minutes
Demold Time 75° F	25-45 minutes

**Physical Properties**

Specific Gravity, Cured (ASTM-D-792-66)	0.64
Weight/cu.in. (lbs.)	0.023
Hardness, Shore D (ASTM-D-2240)	65
Tensile Strength (ASTM-D-638)	1,660 psi
Flexural Strength (ASTM-D-790)	2,730 psi
Flexural Modulus (ASTM-D-790)	1.71 x 10 <sup>5</sup> psi
Compressive Strength (ASTM-D-695)	3,050 psi
Impact Resistance	.58 ft. lbs./in.
Heat Distortion (°F) ASTM-D-648-56	133° F
Lineal Shrinkage (ASTM-D-2566-69)	.0029 in./in.

**Handling Properties**

BCC's Like-Wood is a fast-setting, two part casting system which requires careful preparation prior to mixing parts A and B. Because Like-Wood contains components having very low density there will be some separation at the surface of the material in its container. Using a paint shaker, jiffy mixer, or mixing spatula, resuspension of the ingredients is easily accomplished. Precaution should be taken to prevent any moisture contamination from containers or utensils. It is recommended that the work area be well ventilated and normal cleanliness and safety rules be observed. Avoid prolonged exposure to vapors and contact with skin.



# GT Products

## BCC 8007-2 Urethane

BCC Lik-Wood/Slo is a low viscosity, quick setting, easy to use casting material. A model or tool cast from Lik-Wood/Slo will weigh 60% less than other filled urethane systems. Within 1 to 3 hours after mixing and pouring, Lik-Wood/Slo is ready to be carved, sanded, filed, tapped. etc.. Its amazing wood-like characteristics make it ideal for light-weight backing of laminates and/or surface coats. Perfect for fast take offs, cores, engineering changes, temporary molds, patterns, models, prototypes, and bases for die models.

### Working Properties

Mix Ratio (by weight)	1 to 1
Viscosity (ASTM-D-2393)	
Part A	1,100 cps
Part B	2,250 cps
Mixed (1 Minute)	1,640 cps
Working Life (1/2 lb. mass) 75° F	8-10 minutes
Gel Time (ASTM-D-2471)	12 minutes
*Demold Time 75°F	1 to 3 hours

### Physical Properties

Specific Gravity, Cured (ASTM-D-792-66)	0.66
Weight/cu.in. (lbs.)	0.024
Hardness, Shore D (ASTM-D-2240)	65
Tensile Strength (ASTM-D-638)	2,160 psi
Flexural Strength (ASTM-D-790)	3,400 psi
Flexural Modulus (ASTM-D-790)	168,000 psi
Compressive Strength (ASTM-D-695)	3,192 psi
Impact Resistance	2.41 ft. lbs./in.
Heat Distortion (°F) (ASTM-D-648-56)	149° F
Lineal Shrinkage (ASTM-D-2566-69)	.001 in./in.
Dependant upon wall thickness of casting	



For several years BCC customers have requested a truly metal-like, fast setting urethane reproduction plastic that exhibits many of the desirable qualities of familiar BC 8002 Kwik-Kast. Introducing BC 8010 Metal-Kast, the result of extensive research and development aimed to achieve what you said you wanted in a machinable tooling plastic. Ideal for low temperature vacuum form tools, prototypes, models, display parts, patterns, keller aids and bulk back fill.

### Working Properties

Mix Ratio (by weight or volume)	1 to 1
Mixed Viscosity (1 minute)	2,650 cps
Brookfield (#2 spindle @ 20 rpm)	
Working Life, 24°C (75°F), 1lb. mass	5 minutes
Color, Part A	Aluminum Gray
Part B	Aluminum Gray
Cured	Aluminum Gray
Demold Time, 24°C (75°)	1 to 2 hours

### Physical Properties

Specific Gravity (cured) gms/cc	1.60
Lbs./cu.in.	0.058
Cu. in./lb.	17.3
Hardness, Shore D (ultimate)	85
Compressive Strength	9,750 psi
Linear shrinkage	0.001 in/in

\*Dependant upon wall thickness of casting

### Handling Properties

BCC's Metal-Kast is a fast-setting, two part casting system which requires careful preparation prior to mixing parts A and B. Because Metal-Kast contains components of high density there will be some separation at the bottom of each container. Using a paint shaker, jiffy mixer, or mixing spatula, resuspension of the ingredients is easily accomplished. Precaution should be taken to prevent any moisture contamination from containers or utensils. It is recommended that the work area be well ventilated and normal cleanliness and safety rules be observed. Avoid prolonged exposure to vapors and contact with skin.



# GT Products

## BCC 8163 Urethane

BC 8163 is a very low viscosity, rapid setting, rigid urethane compound. This system will cure quickly to a hard, tough, impact resistant casting. BC 8163 is non-sensitive to moisture after cure and will readily bond to itself if stage pours are required. The one-to-one volume mix ratio makes the system readily adaptable for machine mixing and dispensing. BC 8163 is recommended in applications where a "thermoplastic feel" is desired.

### WORKING PROPERTIES

Mix Ratio (Part A/Part B)	100 to 96 by wt. 100 to 100 by vol.
Viscosity (Brookfield @ 77°F)	Part A: 50 cps Part B: 100-150 cps
Color	Part A: Light Amber Part B: Clear
Pot Life (1 IN mass) @ 77°F	2 min-2 1/2 mins.
Demold Time, 77°F (25°C)	20-60 minutes*
Final Cure, 77°F (25°C)	7 Days

### PHYSICAL PROPERTIES

Specific Gravity (ASTM D792), Cured	1.07 gms/cc
Cubic Inches per Pound	25.2
Hardness (Shore D) @ 77°F	78±5
Linear Shrinkage (ASTM D2566)	.0029 in./in.
Ultimate Tensile Strength (ASTM D638)	5,600 psi
Ultimate Flexural Strength (ASTM D790)	7,875 psi
Ultimate Compressive (ASTM D695)	3,985 psi
Elongation % (ASTM D638)	3.5
Flexural Modulus (ASTM 790)	0.22 x 10 <sup>8</sup>
Deflection Temperature (ASTM D648)	135°F
Impact Strength (ASTM D256) Izod Notched 1.5 ft. lbs./in.	
Thermal Coefficient of Expansion (ASTM 696) in./in./°F	13.2 x 10 <sup>-5</sup>

\*Results obtained from a 7 day room temperature cure.



BC 8165 is a low viscosity, rapid setting, rigid urethane compound. Similar to BC 8163, however exhibits an 8 to 10 minute working time. This system will cure quickly to a hard, tough, impact resistant casting. BC 8165 is non-sensitive to moisture after cure and will readily bond to itself if stage pours are required. BC 8165 is recommended for thin wall model and prototype applications where a "thermoplastic feel" is desired.

### WORKING PROPERTIES

Mix Ratio (Part A/Part B)	100 to 80 by wt. 100 to 87 by vol.
Viscosity (Brookfield @ 75°F)	Part A: 36 cps Part B: 640 cps Mixed: 230 cps
Color	Part A: Light Amber Part B: Translucent
Working Life (1 lb. mass) @ 75°F	8-10 minutes

### PHYSICAL PROPERTIES

Demold Time, 75°F	1-2 hours*
Final Cure, 75°F	7 Days
Specific Gravity (gms/cc), Cured	1.07
Weight /cu.in. (lbs.)	0.039
Cubic Inches per Pound	26
Hardness (Shore D) @ 75°F	83±2
Linear Shrinkage (ASTM D2566)	0.001 in./in.
Color	White

\*Dependent upon thickness of casting.



BC 8400 is an unfilled, low viscosity, quick setting two component urethane system. An easy to use 1 to 1 mix ratio (Part A/Part B), BC 8400 offers the user a 3 minute working time with parts demoldable in as little as 30 minutes. When properly cured, BC 8400 will exhibit high impact strength and yield thermoplastic-like parts. Some outstanding features include the following:

- \* Mercury free
- \* Moderate heat resistance
- \* 1 to 1 mix ratio
- \* Turns white upon cure
- \* Longer mold life
- \* High impact strength
- \* No objectionable odor
- \* Excellent finishing properties
- \* Thermoplastic appearance
- \* More parts per day

**WORKING PROPERTIES**

Mix Ratio (Part A/Part B)	100 to 100 by wt. 100 to 100 by vol.
Viscosity (ASTM D 2393-71)	Part A 64 cps Part B 480 cps Mixed 190 cps
Color	Part A Amber Part B Opaque
Gel Time (200 gms) ASTM D 2471-71	3 Minutes
Demold time (@ 77°F (25°C))30 -	60 Minutes

## BCC 8400 Continued:

### PHYSICAL PROPERTIES

Specific Gravity (ASTM D 792-66)	1.09
Cubic Inches Per Pound	25.4
Hardness (Shore D) ASTM D 2240-66	75++3°F
Color (Cured)	White
Ultimate Tensile Strength (ASTM D 638)	5326 psi
Elongation % (ASTM D 638)	13.1
Ultimate Flexural Strength (ASTM D 790)	8770
Flexural Modulus (ASTM 790)	250,900
Impact Strength (ASTM D256 Izod Notched) (ft. lbs./in.)	1.34
Deflection Temperature (ASTM D648)	
7 days @ room temp.	145°F
24 hrs @ room temp. + 1 hr @ 150°F	166°F
Linear Shrinkage (ASTM D 2566) in./in.	.0025

Physical properties are based upon 100 to 100 mix ratio by weight.



BC 8400-5 is an unfilled, low viscosity, quick setting two component urethane system. An easy to use 1 to 1 mix ratio (Part A/Part B), BC 8400-5 offers the user a 5 minute working time with parts demoldable in as little as 30 minutes. When properly cured, BC 8400-5 will exhibit high impact strength and yield thermoplastic-like parts. Some outstanding features include the following:

- \* Mercury free
- \* Moderate heat resistance
- \* 1 to 1 mix ratio
- \* Turns white upon cure
- \* Longer mold life
- \* High impact strength
- \* No objectionable odor
- \* Excellent finishing properties
- \* Thermoplastic appearance
- \* More parts per day

**WORKING PROPERTIES**

Mix Ratio (Part A/Part B)	100 to 100 by wt. 100 to 100 by vol.
Viscosity (ASTM D 2393-71)	Part A 64 cps Part B 480 cps Mixed 190 cps
Color	Part A Amber Part B Opaque
Gel Time (200 gms) ASTM D 2471-71	5 Minutes
Demold time (@ 77°F (25°C))30 -	60 Minutes

# General Plastics Mfg. CO



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# GT Products General Plastics *Last-A-Foam FR-7100*

## **LAST-A-FOAM® FR-7100**

GENERAL PLASTICS MANUFACTURING COMPANY

**MODELING, TOOLING, CNC-PROOFING FOAM**



### **Product Description:**

LAST A-FOAM® FR-7100 is a unique, fine-celled high-density polyurethane foam intended for proofing NC/CNC machine programs, prototype models, and other modeling applications where a versatile, stable, grain-free stock material is desired.

It is supplied in 4, 6, 8, 10, 12, 15, 18, 20, 25, 30 and 35 pound per cubic foot densities, in sheet thickness up to 12.0".

Standard sheet sizes: 48" x 48" and 48" x 96". 25 and 30 pound per cubic foot densities are available in 24" x 48" and 24" x 96" sheet sizes only.

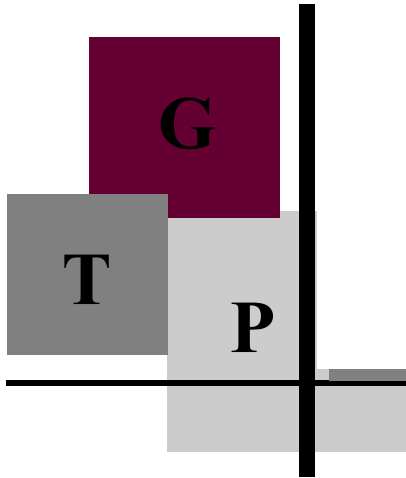
Special sheet and block sizes are available -we will gladly quote on request.

## **PRODUCT BENEFITS**

- Excellent medium for creating models and prototypes of all kinds.
- Exceptionally fine cell structure enhances paintability and finishing.
- Closed-cell, easily bonded and finished with a wide variety of adhesives and coatings.
- Low cost material for checking accuracy of machine-tool operations.
- Dimensionally stable, grain-free, easy to shape with a variety of cutting processes.
- Choice of densities allows control of weight and cost of models and tooling.
- Low-density type hand-carves and shapes with common woodworking tools.
- Higher densities for cutting with powered or CNC tools where more accuracy is desired.

## **PRODUCT DATA**

<b>Description:</b>	Rigid polyurethane foam	
<b>Appearance:</b>	Off-white color rigid foam, odorless	
<b>Standard Sheet Sizes:</b> (Other sizes available on request.)	1.0 inch to 12.0 inches thick, 24" x 96", 48" x 48", 48" x 96" standard stock available.	
<b>Available Densities:</b>	FR-7104 (4 lb. per cubic foot) FR-7106 (6 IN per cubic foot) FR-7108 (8 lb. per cubic foot) FR-7110 (10 lb. per cubic foot) FR-7112 (12 lb. per cubic foot) FR-7115 (15 lb. per cubic foot) FR-7118 (18 lb. per cubic foot) FR-7120 (20 lb. per cubic foot) FR-7125 (25 lb. per cubic foot) FR-7130 (30 lb. per cubic foot) FR-7135 (35 lb. per cubic foot)	
<b>Coefficient of Linear Thermal Expansion:</b>	3.5 - 5.0 x 10 <sup>-5</sup> between -310°F and +200°F.	
<b>Chemical Resistance:</b>	Resists virtually all chemicals and solvents except strong acids and bases.	
<b>Dimensional Stability:</b>	FR-7104, FR-7106, FR-7108, and FR-7110: FR-7112, FR-7115, FR-7118, and FR-7120, FR-7125, FR-7130, FR-7135,	Good to very good Very good to excellent Very good to excellent



# BC 5003 Epoxy Laminating System

**BC 5003** is a medium viscosity, unfilled laminating system. It is a room temperature curing resin with a relatively short pot life.

**BC 5003** is also considered an excellent general purpose adhesive for in-shop use. Recommended for use in gluing up BCC's Tooling Board Series.

## Working Properties

Mix Ratio (Resin/Hardener)	100 to 20 by wt. 100 to 22 by vol.
Viscosity (Mixed) Brookfield @ 75°F	3,500 cps
Pot Life (1/2 lb. mass) 75°F	14-15 Minutes
Cure Schedule @ 75°F	6-8 Hours

## Physical Properties

Specific Gravity (gms/cc)	1.14
Hardness (Shore D) @ 75°F	86
Color	Amber or Red
Tensile Strength (Ultimate)	11,200 psi
Flexural Strength (Ultimate)	19,000 psi
Flexural Modulus (psi)	4.8 x 10 <sup>5</sup>
Compressive Strength (Ultimate)	16,800 psi
Heat Distortion Temperature (264 psi)	172°F

**NOTE:** This information contained herein is believed to be reliable. All recommendations are made without guarantee inasmuch as conditions and methods of commercial use are beyond our control. Properties given are typical values and are not intended for use in preparing specifications.