



**TCC-8020  
PRONTO PARTS  
FOR RAPID PROTOTYPING**

**PRODUCT BULLETIN**



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**DESCRIPTION**

**Pronto Parts® TCC-8020** is a 75 Shore D urethane system designed to give the feel of thermoplastic plastic parts for prototype applications. Parts can also be post cured to reach a higher heat deflection temperature. Because of its low viscosity and short working life this system is suited for use with automated dispensing equipment.

**HANDLING CHARACTERISTICS @ 77F/25C**

Mix Ratio (parts by weight or volume) .....	TCC-8020A/TCC-8021B .....	100A/50B
Viscosity .....	TCC-8020A .....	60 cps
.....	TCC-8021B .....	1500 cps
Mixed Viscosity .....	.....	150 cps
Specific Gravity .....	TCC-8020A .....	1.09 g/cc
.....	TCC-8021B .....	1.06 g/cc
*Color .....	TCC-8020A .....	Lt Amber
.....	TCC-8021B .....	Clear Colorless
Gel Time (150 gram mass @ 77°F (25°C)) .....	.....	16-18 minutes
Peak Exotherm .....	.....	< 260°F (112°C)
Demold Time (parts may also require a supported post cure after demolding) .....	.....	2-4 hours
Shelf Life Resin and Hardener (in original unopened containers) .....	.....	2 years

**\*In 5-Gallon Pails the TCC-8021B is available in white, black or natural.** If material is cast over 1-1/2" thick and it is not pigmented it looks similar to marble with white and light amber colors. This is a normal property of the material that can be corrected with pigment. Please specify when ordering 5-Gallon Pails which finished color you would like.

**PHYSICAL PROPERTIES (CAST BAR)**

Cured Color .....	.....	White
Hardness .....	.....	75 Shore D
Cured Specific Gravity .....	.....	1.10
Linear Shrinkage .....	Room Temp .....	Nil
.....	6 hrs @ 140°F (60°C) .....	<.001 in/in
.....	16 hrs @ 180°F (80°C) .....	<.001 in/in
Heat Deflection Temperature @ 66 psi (ASTM D-648)	.....	.....
.....	Room Temp .....	140°F (60°C)
.....	6 hrs @ 140°F (60°C) .....	185°F (82°C)
.....	16 hrs @ 180F (80°C) .....	210°F (99°C)
Flexural Strength (ASTM D-790) .....	.....	7,500psi (52MPa)
Flexural Modulus (ASTM D-790) .....	.....	237,500psi (1,638MPa)
Tensile Strength (ASTM D-638) .....	.....	6,000psi (41MPa)
Elongation (ASTM D-638) .....	.....	6%

**MIXING PROCEDURE**

Use an accurate gram scale to properly weigh and proportion A/B components into a straight sided metal or plastic container for mixing. Paper or wax lined mixing containers can contain moisture and contaminate the material. Next, use a metal or plastic mixing spatula to gently but thoroughly blend resin and hardener together. Once the urethane appears to be well mixed, pour into a second container and continue to mix for another two to three minutes. This procedure eliminates the possibility of any unmixed material being poured into the final cast. Vacuum degass mixture before casting to produce an air free part.

**MOLDS**

Use TCC Casting Urethane systems for mold construction. You can choose from the TCC-5000 series of flexible Shore 'A' 50-95 systems or TCC-6000 series of semi-rigid Shore 'D' 60-75 systems. Urethane molds should be fully cured before use and require the application of mold release agent such as MR #10 high gloss mold release. MR #10 is a low viscosity, water clear, non-transferable polymer mold release that can be applied by brush or non-aerosol sprayer. Other mold release systems are also available.

Note: Certain silicone mold compounds can inhibit the cure of TCC-8020, causing a tackiness of the surface where TCC-8020 interfaces with the silicone mold. A trial cast should be made to test compatibility. Please contact our Technology Group for assistance.

<b>TCC CASTING URETHANES</b>	
<b>Flexible Tooling Elastomers</b>	
TCC-5000A/5050B - 50 Shore A	TCC-5000A/5060B - 60 Shore A
TCC-5000A/5070B - 70 Shore A	TCC-5000A/5080B - 80 Shore A
TCC-5000A/5081B - 80 Shore A - long working life	
TCC-5000A/5090B - 90 Shore A	TCC-5000A/5095B - 95 Shore A
<b>Rigid Tooling Elastomers</b>	
TCC-6000A/6061B - 60 Shore D	TCC-6000A/6065B - 65 Shore D
TCC-6060A/B - 60 Shore D - short working life	
TCC-6000A/6070B - 70 Shore D	TCC-6075A/6075B - 75 Shore D
<b>Pronto Parts for Rapid Prototyping</b>	
TCC-8020A/TCC-8021B - 75 Shore D	TCC-8040A/B - 80 Shore D - High Temp
<b>Crystal Clear Casting System</b>	
TCC-6080 A/B - 80 Shore D	

**SANITARY PRECAUTIONS**

Do not take internally. Avoid prolonged breathing of vapors. Work in a well ventilated area. Avoid skin contact. Protective gloves should be worn. If contact occurs: wash skin with soap and water. Avoid eye contact. If contact occurs: rinse well with water for 15 minutes, contact physician.

**STORAGE AND HANDLING**

Store closed containers at 65°F-85°F (18°C-29°C). Partially used containers must be flushed with dry nitrogen and resealed. Materials are sensitive to moisture contamination.

TCC-8020 Tech/Revised 1/30/15  
Supersedes 6/24/14

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