



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

PRODUCT BULLETIN



www.axson-technologies.com 800.344.7776 axsonmh@axson.com
31200 Stephenson Hwy Madison Heights, MI 48071 Ph 248.588.2270 Fax 248.588.5909

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 to medium working life this system is suited for use with automated dispensing equipment but can also be hand mixed if time allows.

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

TCC-8020/8021 is off white in cast cured color. 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.

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)
.....	16 hrs @ 180°F (80°C)
Heat Deflection Temperature @ 66 psi (ASTM D-648)	
.....	Room Temp..... 140°F (60°C)
.....	6 hrs @ 140°F (60°C)
.....	16 hrs @ 180°F (80°C)
Flexural Strength (ASTM D-790)	7,500psi (52 MPa)
Flexural Modulus (ASTM D-790)	237,500psi (1,638 MPa)
Compressive Strength (ASTM D-695)	
7 day at room temperature cure	6,300 psi (43 MPa)
6 hrs @ 140°F post-cure	6,900 psi (48 MPa)
Compressive Modulus (ASTM D-695)	
7 day at room temperature cure	180,000 psi (1,242 MPa)
6 hrs @ 140°F post-cure	178,000 psi (1,228 MPa)
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.

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MOLDS

Use Casting Urethane systems for mold construction. You can choose from a series of flexible Shore A 50-95 systems or semi-rigid Shore D 60 to a more rigid Shore D 67-72D type system. Urethane molds should be fully cured before use and require the application of mold release agent for good release.

TCC CASTING URETHANES	
Flexible Tooling Elastomers	
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/5080B - 80 Shore A	TCC-5000A/5090B - 90 Shore A
UR 3558 A/B - 95 Shore A	
Semi-Rigid Tooling Elastomers	
TCC-6060A/B - 60 Shore D	
Rigid Tooling Elastomers	
UR-3490 A/B – 67 Shore D	TCC-6072 – 72 Shore D (fast curing)
Pronto Parts for Rapid Prototyping	
TCC-8020A/TCC-8021B - 75 Shore D	
Crystal Clear Casting System	
PX 523 / PX 5210 - 82 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 5/20/19
Supersedes 1/30/15

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AXSON TECHNOLOGIES US +1 248 588 2270 axsonmh@axson.com axson-na.com	CHINA +86 21 58 68 30 37 marketing.china@axson.com	GERMANY +49 6 07 44 07 11-0 verkauf@axson.com	INDIA +91 20 25 56 07 10-11 info.india@axson.com	ITALY +39 02 96 70 23 36 axson@axson.it	JAPAN +81 5 64 26 25 91 sales.japan@axson.com	FRANCE Global Headquarters +33 1 34 40 34 60 axson@axson.com axson-technologies.com
	MEXICO +52 55 52 64 49 22 marketing@axson.com.mx	MIDDLE EAST +971 7 2432227 axsonmiddleeast@axson.com	SLOVAKIA +42 1 76 42 25 26 axson.sk@axson.com	SPAIN +34 9 32 25 16 20 spain@axson.com	U.K. +44 16 38 66 00 62 sales.uk@axson.com	