



TCC-6080 A/B (80 Shore D)

CLEAR CASTING
POLYURETHANE

PRODUCT BULLETIN



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DESCRIPTON

TCC-6080 A/B is a two-part water clear polyurethane that when properly cured produces a transparent, optically clear casting that will not yellow or discolor when exposed to ultraviolet light and high humidity environments. The exceptionally high impact resistance and durability of TCC-6080 A/B allow it to be used in applications that previously called for polycarbonate or acrylic.

HANDLING CHARACTERISTICS @ 25°C/77°F

Mix Ratio (parts by weight).....	100A/72B
Mixed Density.....	1.05 grams/cc
.....	8.8 lbs/gal
Mixed Viscosity	1,880 cps
Work Life (100 gram mass).....	25 minutes
Maximum Casting Depth*	< 3 inches
Demold Time	12-16 hours
Complete Cure	5-7 days
Cured Color	Optically Water Clear
Shelf Life Resin/Hardener (in original unopened containers)	2 years

*Castings greater than 3 inches can be step cast.

TYPICAL PHYSICAL PROPERTIES

Tensile Strength	6,967 psi
Tensile Modulus	333,000 psi
Tensile Elongation.....	4.24%
Flexural Strength.....	10,690 psi
Flexural Modulus	298,100 psi
Compressive Strength.....	8,433 psi
Heat Deflection Temperature @ 66 psi.....	54°C/129°F
Impact Strength	14.82 in-lbf/in
Hardness	80 Shore D

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 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 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 available.

Note: Certain silicone mold compounds can inhibit the cure of TCC-6080, causing a tackiness of the surface where TCC-6080 interfaces with the silicone mold. A trial cast should be made to test compatibility. Please contact our Technology Group for assistance.

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/5081B - 80 Shore A - long working life	
TCC-5000A/5090B - 90 Shore A	TCC-5000A/5095B - 95 Shore A
Rigid Tooling Elastomers	
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
Pronto Parts for Rapid Prototyping	
TCC-8020A/TCC-8021B - 75 Shore D	TCC-8040A/B - 80 Shore D - High Temp
Crystal Clear Casting System	
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. Partially used containers must be flushed with dry nitrogen and resealed. Materials are sensitive to moisture contamination.

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Supercedes 8/24/07

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