



TCC-6060A/B
(60 Shore D)
POLYURETHANE CASTING
SYSTEM

PRODUCT BULLETIN



TOOL CHEMICAL COMPOSITES

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DESCRIPTION

TCC-6060A/B is a two-component, room temperature cure, 60 Shore D hardness urethane elastomer. This shorter work life casting system offers outstanding performance properties including high impact strength, low shrinkage and easy processing. In many applications parts can be demolded several hours after casting. In complex parts or very thin sections, castings may require 9 – 16 hours before demolding; and in very demanding applications, an additional cure of 3 or 4 days at room temperature before use. The ultimate properties of this material are reached after 1 – 3 weeks at room temperature or by being post cured for 16 hours at 140°F (60°C).

Typical Applications Include: Long Lasting Molds • Industrial Wheels • Drop Hammer Faces • Washers • Gaskets • Foundry Patterns • Core Box Linings

TYPICAL HANDLING CHARACTERISTICS @ 77°F (25°C)

Mix Ratio (parts by weight)	Resin TCC-6060A/Hardener TCC-6060B.....	100A/25B
Pot Life (1 lb mass)		12 - 15 minutes
Initial Mixed Viscosity		2,500 cps
Mixed Color		Amber
Shelf Life Resin/Hardener (in original unopened containers)		2 years

TYPICAL PHYSICAL PROPERTIES

Hardness Buildup (150 gram mass @ 77F/25C).....	after 2 hours	40 - 45 Shore D
	after 24 hours	50 - 55 Shore D
	after 48 hours	55 - 60 Shore D
	after 7 days	58 - 62 Shore D
Cured Specific Gravity		1.10 g/cc
Tensile Strength		4,000psi (28MPa)
Tensile Modulus		23,000psi (159MPa)
Compressive Modulus		55,000psi (379MPa)
Elongation		200%
Glass Transition Temperature (Tg by DSC)		140°F (60°C)
Linear Shrinkage		<0.001 in/in
Notched Izod Impact Strength		19.9 ft lbs/in
Tear Strength, split		200 pli
Tear Strength, Die "C" Graves		600 pli

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.

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.

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

TCC-6060 Tech/Revised 1/30/15
Supersedes 6/23/14

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