PRODUCT BULLETIN

TCC-6000A/6061B (60 Shore D)

POLYURETHANE CASTING SYSTEM

TOOL CHEMICAL COMPOSITES

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DESCRIPTION

TCC-6000A/6061B is a two-component urethane casting system designed to give a 60 Shore D hardness material with exceptional toughness. This long work life casting system offers outstanding performance properties including high 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 may be required before use. Ultimate properties are reached after 7 days at room temperature or by curing for 9 - 16 hours at room temperature, then post curing for a minimum of 6 hours at 160°F (71°C).

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

HANDLING CHARACTERISTICS @ 25°C/77°F

Mix Ratio (parts by weight)	Resin TCC-6000A/Hardener TCC-6061B	100A/45B
Pot Life (150 gram mass)		25 - 30 minutes
Initial Mixed Viscosity		2,000 - 2,500 cps
Mixed Color		Amber
Shelf Life Resin/Hardener (in original unopened containers)		2 years

TYPICAL PHYSICAL PROPERTIES

Hardness Buildup (150 gram mass @ 77°F)	after 24 hours	53 - 58 Shore D
	after 48 hours	55 - 60 Shore D
	after 72 hours	57 - 63 Shore D
	after 96 hours	60 - 64 Shore D
Cured Specific Gravity		1.08 grams/cc
Tensile Strength		4,000 psi
Elongation		150%
Linear Shrinkage		<0.002 in/in
Tear Strength, split		150 pli
Tear Strength, Die “C” graves		500 pli
Heat Deflection Temperature (66 psi)		147°F (64°C)

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.

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.

TCC-6000A/6061B Tech/Revised 4/16/10
Supercedes 6/30/09