



**TCC-5000A/5080B  
(80 Shore A)  
POLYURETHANE CASTING  
SYSTEM**

**PRODUCT BULLETIN**



TOOL CHEMICAL COMPOSITES

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**DESCRIPTION**

**TCC5000A/5080B** is a two-component urethane casting system designed to give a 80 Shore A hardness material with exceptional toughness. This casting system offers outstanding performance properties including high strength, low shrinkage and easy processing. Ultimate properties are reached after 7 days at room temperature or by being cured for 16-20 hours at room temperature, then post cured for a minimum of 6 hours at 160°F (71°C).

**Typical Applications Include: Long Lasting Flexible Molds • Industrial Wheels • Belts • Pulleys • Casters • Nesting Fixtures • Static Welding Fixtures • Metal Forming Pads • Sound Dampening Pads**

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

Mix Ratio (parts by weight) .....	Resin TCC-5000A/Hardener TCC-5080B.....	100A/50B
Pot Life (150 gram mass) .....		12 - 14 minutes
Initial Mixed Viscosity .....		1,500 cps
Mixed Color .....		Amber
Shelf Life Resin/Hardener (in original unopened containers) .....		2 years

**TYPICAL PHYSICAL PROPERTIES**

Hardness Buildup (150 gram mass @ 77°F (25°C))	....after 24 hours .....	70 - 75 Shore A
	....after 48 hours .....	76 - 80 Shore A
	....after 72 hours .....	80 - 84 Shore A
Cured Specific Gravity.....		1.09 g/cc
Tensile Strength .....		2,500psi (17MPa)
Elongation .....		400%
Linear Shrinkage .....		<0.001 in/in
Tear Strength, split .....		120 pli
Tear Strength, Die "C" graves .....		300 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.

<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-5000A/5080B Tech/Revised 1/30/15  
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