*PRODUCT BULLETIN*

# TCC-401
# MASS CASTING SYSTEM

ROOM TEMPERATURE

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## DESCRIPTION

Epoxy Resin **TCC-401** is an iron oxide filled mass casting resin designed as the back up material for casting applications such as plastic draw dies for forming metal parts. Size of the casting is limitless and shrink and exotherm are controlled by utilizing fillers and the proper hardener. By utilizing this system, prototype and short-run production of parts can be accomplished rapidly with minimum cost.

## HANDLING CHARACTERISTICS @ 25°C/77°F AND HARDENER SELECTION

| **Thickness of Cast** | **up to 1"** | **1" to 4"** | **4" to 10+"** |
|---|---|---|---|
| Hardener Selection | **TCC-104** | **TCC-104-5** | **TCC-105** |
| Mix Ratio (parts by weight): | | | |
| Resin TCC-401 | 100 parts | 100 parts | 100 parts |
| Hardener | 10 parts | 10 parts | 10 parts |
| Pot Life (500 gram mass) | 30 minutes | 50 minutes | 1 - 2 hours |
| Cure Time | 8 - 12 hours | 12 - 24 hours | 24 - 48 hours |

## PHYSICAL PROPERTIES @ 25°C/77°F

| | |
|---|---|
| Density | 120 lb/ft$^3$ |
| Mixed Viscosity | 5,500 cps |
| Cured Color | Black |
| Peak Operating Temperature | 180°F |
| Hardness | 80 Shore D |
| Compressive Strength | 28,500 psi |
| Compressive Modulus: | |
| TCC-401/105 | 282,000 psi |
| TCC-401/105 with 1 part Aluminum | 315,000 psi |
| Notched Izod Impact Strength | 1.9 ft lbs/in |
| Tensile Strength | 7,000 psi |
| Shelf Life (in original unopened containers) | TCC-401/TCC-104, TCC-104-5, or TCC-105 — 2 years |

Note: Large castings can be achieved by using aggregate fillers such as aluminum cut wire, stone or metal shavings. The filler is added at a ratio of 2 to 4 parts for each 1 part of resin mix. This ratio of filler reduces shrink and exotherm allowing extremely large castings.

## 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

Store at room temperature. Before use, mix resin well with mechanical device.

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