



# HY-POXY SYSTEMS, INC. TECHNICAL DATA SHEET

## STEEL LIQUID

**PRODUCT:** H-110 1 lb (454 grams) Steel Liquid Repair Kit

**DESCRIPTION:** A two-component epoxy formula highly concentrated with carefully selected steel particles, modified curing agents and special high quality additives to provide maximum strength, durability, and ease of application. After mixing, the H-110, becomes a heavy liquid and can be poured. It can be machined with standard metalworking tools and equipment.

**APPLICATIONS:** H-110 is universally used for leveling wear plates, machines and other equipment and for tooling such as simple short- run forming dies. It's a great filler for blow holes where a material must be poured in and for masters on duplicating machines.

<b>PHYSICAL PROPERTIES:</b>	
Color	Dark Grey
Pot Life 1 lb. @ 24°C (75°F)	45 minutes
Mixed Viscosity	30,000 cps
Cure Shrinkage	0.0007 in/in
Temperature Resistance	250°F (121°C)
Hardness (Shore, ASTM D 1706)	85D
Cured Density	14.6 cu. in. per lb.
Coefficient of Thermal Expansion	$75 \times 10^{-6}$ cm/cm/°C
Compression Strength (ASTM D 695)	10,000 psi (69 M Pa)
Tensile Strength (ASTM D 638)	4,500 psi (31 M Pa)
Flexural Strength (ASTM D 790)	7,100 psi (49 M Pa)
Compression Modulus (ASTM D 695)	$2.65 \times 10^5$ psi ( $1.8 \times 10^3$ M Pa)
Thermal Conductivity (ASTM C 177)	$1.26 \times 10^{-3}$ cal-cm/sec.cm <sup>2</sup> °C
Dielectric Strength (ASTM D 149)	35 volts/mil
Adhesive Tensile Shear (ASTM D1002)	2835 psi

<b>CHEMICAL RESISTANCE:</b>	
Hydrochloric Acid 10%	Very Good
Hydrochloric Acid 50%	Good
Sulfuric Acid 10%	Very Good
Sulfuric Acid 50%	Good
Water	Very Good
Ammonia	Very Good
Sodium Hydroxide 10%	Very Good
Gasoline, Oil, Kerosene	Very Good
Mineral Spirits	Very Good
Toluene	Good
Methanol	Fair
MEK	Fair
Propylene Glycol	Very Good



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**DIRECTIONS:** Surface area in need of repair must be clean, dry and preferably roughened for maximum adhesion.

Combine all of the hardener with all of the resin. For smaller portions, dole out 1 part hardener to 4 parts resin by volume (1 to 9 parts by weight).

Mix thoroughly scraping the sides and bottom of the container making certain that all of the hardener comes in contact with all of the resin.

Apply the mixed compound by pouring or brushing on the surface. Since HY-POXY® will not adhere to polyethylene, a piece of that plastic can be placed on the uncured HY-POXY® and removed after the material cures to leave a very smooth finish.

**CURING TIME:** At 75°F (24°C) a ½" (12.5mm) layer of HY-POXY® STEEL LIQUID will be hard in approximately 4 hours. FULL cure times are as follows:

<b><u>TEMPERATURE</u></b>	<b><u>WORKING TIME</u></b>	<b><u>FULL CURE TIME</u></b>
60°F (16°C)	90 Minutes	32 Hours
75°F (24°C)	45 Minutes	16 Hours
90°F (32°C)	25 Minutes	8 Hours

HY-POXY® STEEL LIQUID will not cure properly below 60°F (16°C).

**NON-WARRANTY:** We cannot accept any responsibility or liability for lack of results because the storage, handling, and application of the compound are beyond our control.

H-110 STEEL LIQUID TDS