inkbit
Built for What's Next™

TITAN CHEM EPOXY

Titan Chem Epoxy

A chemically resistant rigid epoxy designed for components requiring structural performance under elevated temperatures and harsh solvents. With a heat deflection temperature of 130 °C at 0.45 MPa, tensile strength of 59.2 MPa, and modulus above 2.5 GPa, the material supports production-quality structural parts.

Solvent compatibility testing shows minimal swelling in oils, fuels, acids, and bases, including motor oil, sulfuric acid, hexane, NaOH, and isopropyl alcohol (page 2). Typical applications include jigs and fixtures, fluid handling manifolds, RF and electronics enclosures, and precision components requiring dimensional stability over repeated cycles.

Technical Datasheet

Titan Chem Epoxy

Mechanical Properties	Method	Value
Ultimate Tensile Strength	ASTM D638-IV	59.2 MPa
Elongation at Break	ASTM D638-IV	2.5%
Elastic Modulus	ASTM D638-IV	2.7 GPa
Flexural Strength	ASTM D790	71.7 MPa
Flexural Modulus	ASTM D790	2.4 GPa
Shore Hardness	ASTM D2240	81 D

Thermal Properties	Method	Value
HDT @ 0.45 MPa	ASTM D648	130 °C
HDT @ 1.82 MPa	ASTM D648	116 °C
Glass Transition Temperature	ASTM D38418	131 °C

Other	Method	Value
Density	ASTM D792	1.21 g/cm³
Cytotoxicity	ISO 10993-5	Pass (24 h)

Solvent Compatibility	Method	Value
Tested Solvent (5 Days)		***Day 5 % Weight Gain***
Isopropyl Alcohol	-	-0.029
Acetone	-	0.514
Ethanol	-	0.481
Sulfuric Acid	-	0.424
NaOH (20% w/w)	-	0.578
Nitric Acid (2% aq)	-	0.742
Toluene	-	0.06
Pennzoil SAE 10W-30 Motor Oil	-	0.096
Synthetic Sea Water	-	0.255
Bleach	-	0.347