PROTIQ
A Phoenix Contact Company

MATERIAL DATASHEET
STEREOLITHOGRAPHY

3D PRINTING WITH PLASTICS FOR MAXIMUM DETAIL RENDITION

The advantages of objects made of epoxy resins include a high level of detail and smooth surfaces. One of the production processes used for such objects is stereolithography.

MATERIAL		RS High Temp	RS Clear	RS Flexible	RS Elastic
					
Properties*	**Unit**				
Color	–	amber	transparent	anthracite	milky white
Tensile strength	MPa	58,3	65	7,7 – 8,5	3,23
Tensile Modulus	MPa	2750	2800	1,21	1,18
Flexural Modulus	MPa	2620	2200	–	–
Tear Strength	kN/m	–	–	13,3 – 14,1	19,1
Elongation at Failure	%	3,3	6,2	75 – 85	160
Shore A Hardness	–	–	–	80 – 85	50
Compression Set	%	–	–	0,4	2/9**
Notched impact strength	J/m	18,2	25	–	–
Vicat Softening Point	°C	–	–	230	–
Thermal Expansion (0-150 °C)	µm/m/°C	79,6	44	–	–
Heat deflection temperature at 0.45 MPa	°C	142	73,1	–	–
Heat deflection temperature at 1.82 MPa	°C	99,2	58,4	–	–

* after thermal treatment

** measured at 23 °C / 70°C for 22 hrs

PROTIQ
A Phoenix Contact Company

MATERIAL DATASHEET
STEREOLITHOGRAPHY

3D PRINTING WITH PLASTICS FOR MAXIMUM DETAIL RENDITION

The advantages of objects made of epoxy resins include a high level of detail and smooth surfaces. One of the production processes used for such objects is stereolithography.

MATERIAL				VisiJet Tough
				
	Properties*	Condition	Unit	
General properties	Color	–	–	grey
	Density, liquid	at 25°C	g/cm³	1,13
	Density, hardened	at 25°C	g/cm³	1,19
Hardened material	Shore D hardness	–	–	86
	Breaking strength	ASTM D 790	MPa	62
	Tensile strength	ASTM D 638	MPa	41
	Elastic modulus	ASTM D 638	MPa	1.890
	Elongation at break	ASTM D 638	%	18
	Bending strength	ASTM D 790	MPa	1.850
	Flexural modulus	ASTM D 790	MPa	1.520 – 2.070
	Notched impact strength	ASTM D 256	J/m	44
	Heat deflection temperature at 0.45 MPa	ASTM D 648	°C	62
	Heat deflection temperature at 1.82 MPa	ASTM D 648	°C	54

* after thermal treatment