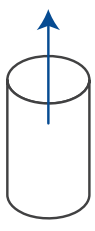
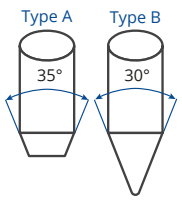
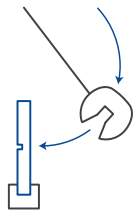
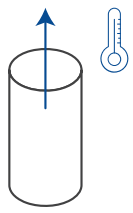
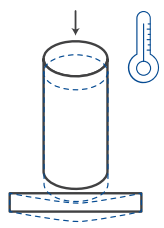
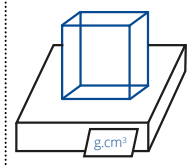
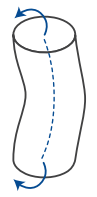
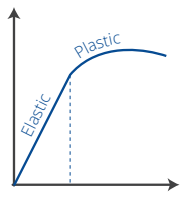
MATERIALS COMPARISON - TECHNICAL DATASHEET

Resins

MATERIAL		TENSILE MODULUS	TENSILE STRENGTH	ELONGATION AT BREAK	HARDNESS SHORE	IMPACT STRENGTH (IZOD NOTCHED)	GLASS TRANSITION TEMPERATURE	HDT B	DENSITY	FLEXURAL MODULUS	FLEXURAL STRENGTH
		Is the mechanical stress that would generate a theoretical elongation of 100% of the initial length of a material. The higher this value, the more rigid the material is.	Is the stress from which a material deforms irreversibly. This value characterizes the resistance of a material	Is the ability of a material to elongate plastically before breaking during a tensile test. The higher this value, the more ductile the material is.	Is a scale of values for characterizing the hardness of a material. The Shore A scale is for flexible "soft" materials and the D scale is for rigid materials.	Is the energy required to break a test specimen (sample of material) previously notched. This value measures the impact resistance of a material	Reversible change of state of the polymer under the action of temperature. Below this temperature, the polymer exhibits the behavior of an elastic solid body. Above that of solid plastic	Is the temperature from which specimens subjected to a load of 0.45MPa in their center and at a temperature in constant rise undergo a conventional bending of 0.2%.	Is the relationship between the mass of the substance and how much space it takes up (volume).	Represents the resistance of the material to elastic strain under stress. High flexural modulus will characterize stiffer material, low modulus, elastic material	Is the stress in a material just before it gives way during a bending test
											
DLS Technology	**Rigid Polyurethane**	1700 - 2200 MPa	42 - 47 MPa	90 – 120 %	-	21 - 23 J/m	80°C	70°C	1.01 - 1.02 g/mL (Liquid)	1500 - 2200 MPa	55 - 71 MPa
	Elastomeric Polyurethane	8 ± 1 MPa	15 MPa	300%	71 (Shore A)	-	- 10°C	-	1.03 g/cm³	-	-
SLA Technology	**Prototyping Resin**	1.6 GPa (Green) 2.8 GPa (post-cured)	38 MPa (Green) 65 MPa (post-cured)	12% (Green) 6.2% (post-cured)	-	16 J/m (Green) 25 J/m (post-cured)	-	49.7°C (Green) 73.1°C (post-cured)	-	1.25 GPa (Green) 2.2 GPa (post-cured)	-
Polyjet Technology	**VeroWhite**	2000 - 3000 MPa	50 - 65 MPa	10 – 25%	83 - 86 (Shore D)	20- 30 J/m	52 -54 °C	45 - 50 °C	1.17 - 1.18 g/cm³ (Polymerized)	2200 - 3200 MPa	75-110 MPa
	VeroClear	2000 - 3000 MPa	50 - 65 MPa	10 – 25%	83 - 86 (Shore D)	20- 30 J/m	52 - 54 °C	45 - 50 °C	1.18 - 1.19 g/cm³ (Polymerized)	2200 - 3200 MPa	75-110 MPa
DLP / LCD Technology	**Ultracur3D® EPD 1086 3D**	1810 MPa	42 MPa	26%	81 (Shore D)	28 J/m (23° Machined)	-	53°C	1.18 g/cm³	1620 MPa	67 MPa
	Ultracur3D® ST 45	2300 MPa	62 MPa	25%	81 (Shore D)	20.8 J/m (23° Machined)	-	73°C	1.2 g/cm³	2430 MPa	109 MPa
	Ultracur3D® RG 3280	10000 MPa	76 MPa	0.7 – 1%	96 (Shore D)	24 J/m	-	>280°C	1.73 g/cm³	8780 MPa	73 MPa