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IND405 CLEAR

(DLP)

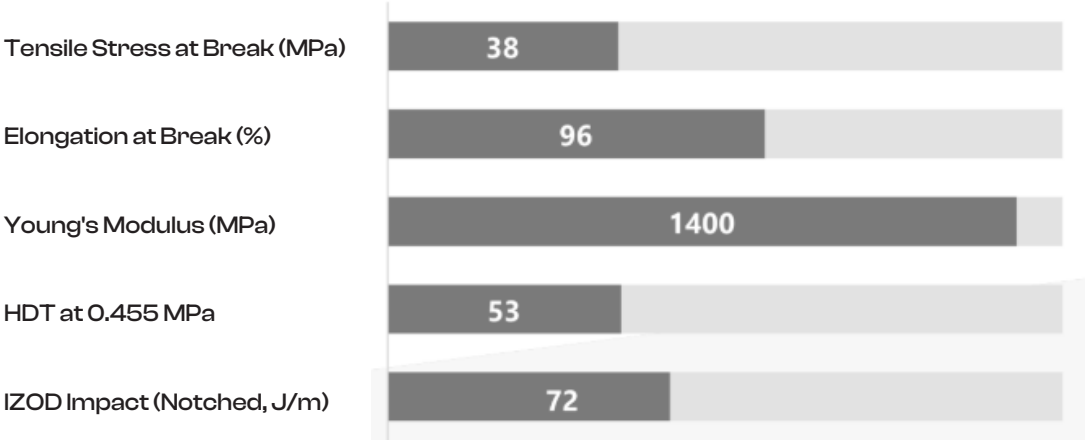
BENEFITS:
- High impact resistance with high elongation
- Easy to print (one-part material)
- Tough and Durable
- The toughest clear resin (only applicable for clear material)
- Functional Prototyping

IDEAL FOR:
- Clear prototypes (clear version)
- Fluid routing & consumer goods prototypes
- Manufacturing aids/tools
- Housings

MARKETS:
- Industry
- Consumer Goods

IND405 CLEAR

IND405 is a rigid, high-strength, high elongation engineering material with outstanding impact resistance and excellent surface finish properties. This stiff and durable high-performance material is ideal for a wide variety of tools in the production floor, including manufacturing aids and final parts such as housings and consumer goods applications. Parts can be printed with various DLP printers and machined, tapped, or polished for final finish.



*Values shown are linked to LOCTITE IND405 Clear as reference, please refer to the specific mechanical properties for each of the colors shown in this document



PROPERTIES	MEASURE	METHOD	GREEN	POST PROCESSED
Mechanical Properties				
Tensile Modulus	MPa	ASTM D638	897 ± 20	1,434 ± 80
Tensile Stress at Yield	MPa	ASTM D638	25 + 1	44 + 1
Elongation at Yield	%	ASTM D638	4.7 ± 0.2	5.0 ± 0.3
Tensile Stress at Break	MPa	ASTM D638	24 ± 1	45 ± 2
Elongation at Break	%	ASTM D638	89 ± 9	101 ± 11
Poisson's Ratio	-	ASTM D638	-	0.44 ± 0.03
Flexural Modulus	MPa	ASTM D790	826 ± 27	1383 ± 63
IZOD Impact (Notched)	J/m	ASTM D256	-	51 ± 4
Shore Hardness (3s)	D	ASTM D2240	-	76
Other Properties				
HDT at 0.455 MPa	°C	ASTM D648	-	52.8
HDT at 1.82 MPa	°C	ASTM D648	-	43.4
Water Absorption (24hr)	%	Internal	-	1.0
Solid Density	g/cm^3	ASTM D1475	1.116	1.121
Thermal Conductivity	W/(m·K)	ASTM D5930	-	0.19
Heat Capacity	J/(g·K)	ASTM D5930	-	0.70 ± 0.07
CTE (-30°C to 45°C)	µm/(m·K)	ASTM E831	-	98.47
Tg	°C	ASTM E1640	-	97.8
Horizontal Burning Test	-	UL94	-	HB
Liquid Properties				**Value**
Viscosity at 25°C (77°F)	cP	ASTM D7867		2,100 - 2,800
Liquid Density	g/cm^3	ASTM D1475		1.046
Electrical Properties				
Volume Resistivity	Ω·cm	ASTM D257	-	2.75E +15
Surface Resistivity	Ω	ASTM D257	-	7.79E +15
Dielectric Strength	kV/mm	ASTM D149	-	24.9
AC Relative Permittivity (Dielectric Constant)				
at 50 Hz (XY)	none	ASTM D150	-	4.7
at 1 kHz (XY)	none	ASTM D150	-	4.2
at 1 MHz (XY)	none	ASTM D150	-	3.6
AC Loss Characteristic (Dissipation Factor)				
at 50 Hz (XY)	none	ASTM D150	-	0.017
at 1 kHz (XY)	none	ASTM D150	-	0.014
at 1 MHz (XY)	none	ASTM D150	-	0.150