

LOCTITE®



LOCTITE® 3D IND147™

HDT230 High Heat
Photoplastic
Black

LOCTITE®

Henkel Corporation

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LOCTITE®

IND147™

HDT230 HIGH HEAT
PHOTOPLASTIC
BLACK



LOCTITE 3D IND147™

LOCTITE 3D IND147 is a high temperature resistant resin with HDT 230°C, and good dimensional stability for low loads processes in molding applications

LOCTITE 3D IND147 shows good surface finish and sufficient toughness to withstand mechanical stresses from molding processes. Its unique properties make it ideal for applications such as polyurethane and silicone molding



Benefits:

- High HDT >230 °C
- Tough with good dimensional stability
- Good surface finish



Ideal for:

- Tooling at high temperature, low pressure
- Prototyping of high temperature parts
- Customized Molds



Markets:



Industry



Consumer Goods



Automotive

Tensile Stress at Break (MPa)

67

Young's Modulus (MPa)

3,190

Elongation at Break (%)

2

HDT at 0.455 (MPa)

291

**Values shown are linked to LOCTITE IND147 Black as reference, please refer to the specific mechanical properties for each of the colors shown in this document*



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PHYSICAL PROPERTIES

Mechanical Properties	Measure	Method	Green	Post Processed
Tensile Stress at Break	MPa	ASTM D638	31 ± 2 [2]	67 ± 16 [1]
Young's Modulus	MPa	ASTM D638	1150 ± 160 [2]	3190 ± 80 [1]
Elongation at Break	%	ASTM D638	6 ± 2 [2]	2.4 ± 0.7 [1]
Flexural Modulus	MPa	ASTM D790	1170 ± 100 [11]	3690 ± 60 [12]
Flexural Stress at Break	MPa	ASTM D790	60 ± 4 [11]	120 ± 4 [12]
Flexural Strain at Break	%	ASTM D790	9.7 ± 0.5 [11]	3.5 ± 0.2 [12]
IZOD Impact Strength (Notched)	J/m	ASTM D256	-	14.6 ± 0.1 [7]
Shore Hardness (0 s)	D	ASTM D2240	-	94 [8]
Thermal Properties				
HDT @ 0.455 MPa	°C	ASTM D648	-	291 ± 15 [13]
HDT @ 1.82 MPa	°C	ASTM D648	-	163 ± 4 [14]
Thermal Conductivity	W/(m·K)	ASTM D5930	-	0.20 [5]
Heat Capacity	J/(g·K)	ASTM D5930	-	1.3 [5]
Coef. Thermal Expansion	µm/(m·°C)	ASTM E831	-	114 [6]
Other Properties				
Water Absorption (24hr)	%	ASTM D570	-	0.25 [9]
Solid Density	g/cm ³	ASTM D1475	1.25 [10]	1.26 [10]

All specimen are printed unless otherwise noted. All specimen were conditioned in ambient lab conditions at 19-23°C / 40-60% RH for at least 24 hours. ASTM Methods: D638 Type IV, 5mm/min., D256 Notched IZOD (Machine Notched), 6 mm x 12 mm, D648, D2240, Type "D" (0 seconds), D570 0.125" x2" Disc 24hr@ 25°C, D7867@ 25°C (77°F), D1475

Internal Data Sources:

[1] FOR27962, [2] FOR8167, [3] FOR46762, [4] FOR46761, [5] FOR26267, [6] FOR8169, [7] FOR8157, [8] FOR8160, [9] FOR12288, [10] FOR19479, [11] FOR48828, [12] FOR48829, [13] FOR48840, [14] FOR50508



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PHYSICAL PROPERTIES

Electrical Properties	Measure	Method	Green	Post Processed
Dielectric Strength	kV/mm	ASTM D149	-	29 ± 2 [1]
Dielectric Constant (50 Hz)	-	ASTM D150	-	3.0 [2]
Dielectric Constant (1 kHz)	-	ASTM D150	-	3.0 [2]
Dielectric Constant (1 MHz)	-	ASTM D150	-	2.8 [2]
Dissipation Factor (50 Hz)	-	ASTM D150	-	-0.002 [2]
Dissipation Factor (1 kHz)	-	ASTM D150	-	0.008 [2]
Dissipation Factor (1 MHz)	-	ASTM D150	-	0.016 [2]
Volume Resistivity	Ω·cm	ASTM D257	-	3.56 E+16 [3]
Surface Resistivity	Ω	ASTM D257	-	3.38 E+16 [3]

Liquid Properties	Measure	Method	Value
Viscosity @ 25°C (77°F)	cP	ASTM D7867	2,100 ± 200 [4]
Liquid Density	g/cm ³	ASTM D1475	1.15 [5]

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Internal Data Sources:

[1] FOR25926, [2] FOR25927, [3] FOR25925, [4] FOR20535, [5] FOR8163

