LOCTITE®

nexa3D®

xPEEK147

HDT230

High Heat

Black

Nexa3D
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nexa3D®

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xPEEK147 HDT230 High Heat

Description

xPEEK147 is a high temperature resistant resin with HDT 230°C for tooling and molding applications. The material showcases good dimensional stability, good surface finish and sufficient toughness to withstand mechanical stresses from molding processes. This material is resistant to temperature stress and is ideal for tooling applications.

Available Colors: Black, Natural

Mechanical Properties *	Method	Green	Post cured with Uvitron Intelliray 600 5min /per side
Tensile Stress at Break	ASTM D638	30.7 ± 1.6 MPa [3]	75 ± 2.0 MPa [5]
Young's Modulus	ASTM D638	1150 ± 137 MPa [3]	3192 ± 35 MPa [5]
Elongation at Failure	ASTM D638	5.9 ± 1.7 %[3]	3.0 ± 0.1 %[5]
Flexural Stress at Yield	ASTM D790	68 ± 3 MPa [12]	128± 17 MPa [1]
Flexural Modulus	ASTM D790	2053 ± 189 MPa [12]	3168± 33 MPa [1]
Flexural Strain at Break	ASTM D790	7.6 ± 2.7 % [12]	4.52± 0.8 % [1]
Thermal Properties			
HDT @ 0.455 MPa VICAT	ASTM D648	[20]	238°C [19]
HDT @ 1.82 MPa VICAT	ASTM D648		107°C [23]
Coefficient of Thermal Expansion (25-200°C)	ASTM E831		114 µm/m-°C [17]
Other Properties			
Durometer (Shore D, 0 Sec)	ASTM D2240		94D [8]
IZOD Impact Strength	ASTM D256		14.6 J/m [13]
Water Absorption (24 Hr)	ASTM D570		0.25% [16]
Solid Density	ASTM D792	1.246 g/cm^3 [24]	1.262 g/cm^3 [24]
Shrinkage by Density	ASTM D792	8.25% [24]	9.64% [24]
Liquid Properties			
Viscosity @ 25°C (77°F)	ASTM D7867	2105 ± 200 cP [11]	
Liquid Density	ASTM D1475	1.15 g/mL [15]	

"All specimen are printed unless otherwise noted. All specimen were conditioned in ambient lab conditions at 19-23C / 40-60% RH for at least 24 hours." ASTM Methods: D638 Type IV, 5mm/min, D790-B, 2mm/min, D256 Notched IZOD (Machine Notched), 6 mm x 12 mm, D648, D2240, Type "D" (0, 3 seconds), D570 0.125" x 2" Disc 24hr@ 25°C, D7867@ 25°C (77°F), D1475

* Based on data provided by Henkel. This information is representative only. Contact your Nexa3D Technical Service Team for further information.

1. TaskID Reference: FOR2424542
2. TaskID Reference: FOR6308
3. TaskID Reference: FOR8167
4. TaskID Reference: FOR6307
5. TaskID Reference: FOR5687
6. TaskID Reference: FOR5769
7. TaskID Reference: FOR8159
8. TaskID Reference: FOR8160
9. TaskID Reference: FOR5454
10. TaskID Reference: FOR5646
11. TaskID Reference: FOR20535
12. TaskID Reference: FOR4007
13. TaskID Reference: FOR8157
14. TaskID Reference: FOR8158
15. TaskID Reference: FOR8163
16. TaskID Reference: FOR12288
17. TaskID Reference: FOR8169
18. TaskID Reference: FOR8168
19. TaskID Reference: FOR24543
20. TaskID Reference: FOR19475
21. TaskID Reference: FOR19476
22. TaskID Reference: FOR19477
23. TaskID Reference: FOR24545
24. TaskID Reference: FOR19479
25. TaskID Reference: FOR6491
26. TaskID Reference: FOR20374
27. TaskID Reference: FOR24356

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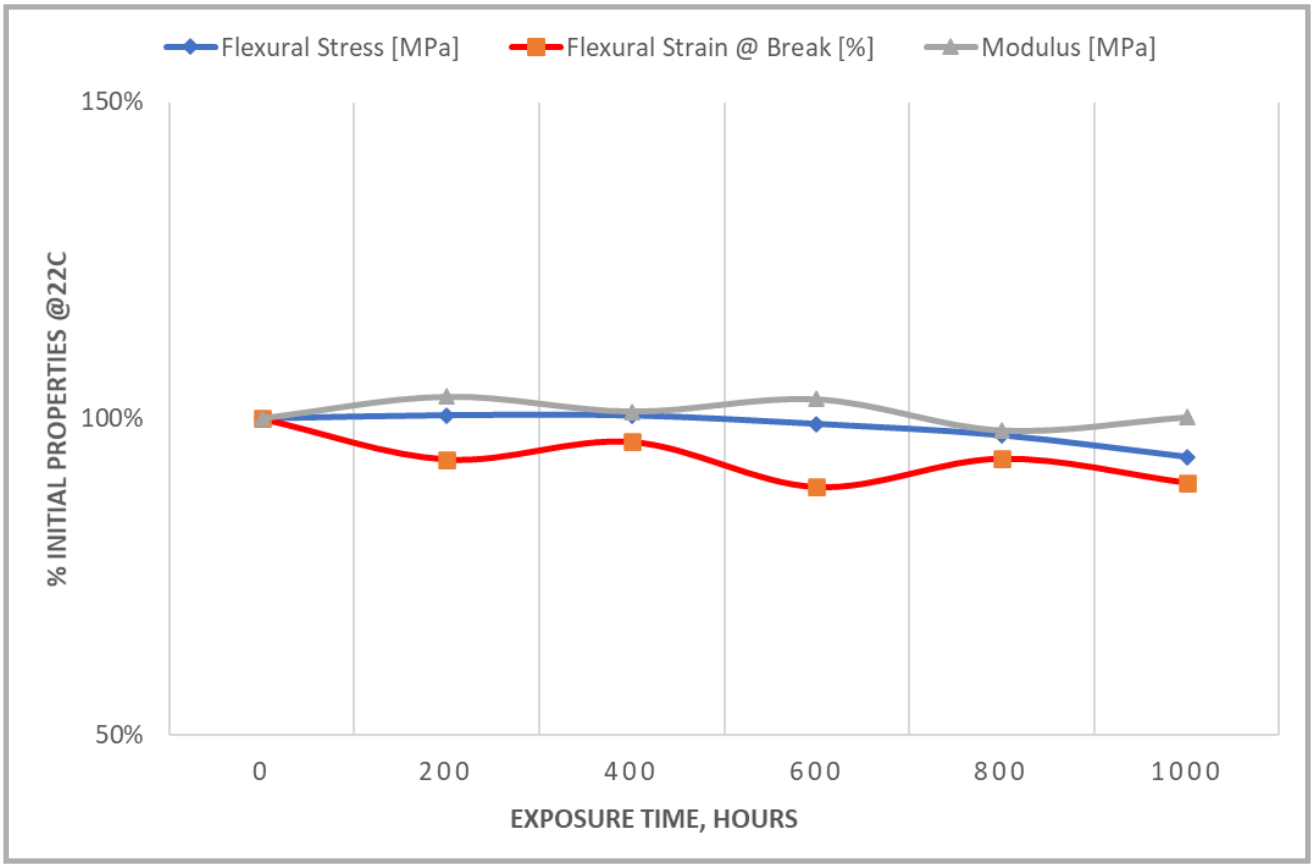
Environmental Resistance **

Heat Aging

Aged at 125°C and tested @ 22°C [27]



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Post Processing

xPEEK147 requires post processing to achieve specified properties. Prior to post curing, support structures should be removed from the printed part, and the part should be washed in a compatible cleaner. Nexa3D recommends either IPA or Nexa3D's xClean in 2 minute wash intervals. Use compressed air to remove residual solvent from the surface of the material between intervals. Exact times and methods can be found by contacting us at www.nexa3d.com.

Post Curing

xPEEK147 requires post curing to achieve specified properties. A wide array of post cure equipment can be used to cure appropriately. Detailed information can be found by contacting us at www.nexa3d.com.

Additional Development Options

Colors: xPEEK147 formula can be made in additional pigment colors. Formula

Modification for xPEEK147 are possible.

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Note

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Nexa3D is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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