

Physical Properties of Polymer Materials

General physical properties	Nylon 12 powder	Nylon 12 powder	Glass-filled Nylon 12 powder	PP powder	Nylon 11 powder	Minera-filled Nylon 6 powder	Glass-filled Nylon 6 powder	Nylon elastomer powder	
Apparent density of powders	0.49 g/cm ³	0.53 g/cm ³	0.68 g/cm ³	0.33 g/cm ³	0.50 g/cm ³	0.6 g/cm ³	0.62 g/cm ³	0.42 g/cm ³	
Workpiece density	0.98 g/cm ³	0.99 g/cm ³	1.31 g/cm ³	0.89 g/cm ³	1.01 g/cm ³	1.44 g/cm ³	1.41 g/cm ³	1.1 g/cm ³	
Color	White	Black	light Grey	Black	White	White	Black	White	
Heat Data									
Melting Point (10℃ /min) GB/T 19466.1-2004	185 ℃	184.5 ℃	184.5 ℃	140 ℃	201 ℃	219 ℃	223.1 ℃	135 ℃	
Thermal Deformation GB/T 1634.2-2004	1.82 MPa	84.5 ℃	73.1 ℃	69 ℃	57 ℃	51 ℃	121 ℃	201 ℃	n/a
	0.45 MPa	148.2 ℃	146.1 ℃	153.1 ℃	91 ℃	151.1 ℃	209 ℃	218 ℃	n/a
Mechanical Data									
Tensile Strength GB/T 1040.2-2006	45 MPa	47 MPa	45 MPa	29 MPa	48 MPa	91 MPa	72 MPa	8MPa	
Tensile Modulus GB/T 1040.2-2006	1600 MPa	1951 MPa	2600 MPa	1200 MPa	1483 MPa	6250 MPa	6481 MPa	50MPa	
Elongation at Break GB/T 1040.2-2006	38 %	19 %	6.7 %	46 %	56 %	2.1 %	1.3 %	400%	
Flexural Strength GB/T 9341-2008	46.1 MPa	40.1 MPa	60 MPa	27 MPa	59 MPa	/	127 MPa	Nondestructive	
Flexural Modulus GB/T 9341-2008	1297 MPa	1053.7 MPa	2100 MPa	1300 MPa	1470 MPa	6000 MPa	6174 MPa	Nondestructive	
Izod Impact Strength Notched GB/T 1843-2008	4.8 KJ/m ²	8.6 KJ/m ²	6.1 KJ/m ²	4.5 KJ/m ²	26 KJ/m ²	4.2 KJ/m ²	4.1 KJ/m ²	Nondestructive	
Izod Impact Strength Unnotched GB/T1843-2008	13.3 KJ/m ²	23.1 KJ/m ²	31.2 KJ/m ²	25 KJ/m ²	Nondestructive	13.1 KJ/m ²	13.4 KJ/m ²	Nondestructive	