

## C100UD45

C100UD45 is a chopped fiber glass mat reinforced PP laminate with randomly oriented glass fibers and additionally reinforced with unidirectional oriented glass fibers. This product provides high mechanical values, easy processing properties and a very homogeneous fiber distribution. It is commonly used for bumper beams and other impact-resistant applications.

Properties	Standard	SI Units		Engl. Units	
<b>Physical Properties</b>					
Laminate Thickness*	Internal	3.9	mm	0.154	in
Area Weight*	Internal	4.953	kg/m <sup>2</sup>	1.014	lb/ft <sup>2</sup>
Fiber Content** random/oriented	ISO 1172 / PA_73, 78	23 / 22	%	23 / 22	%
Density (Laminate)*	ISO 1183 / PA_137	1.22	g/cm <sup>3</sup>	0.0441	lb/in <sup>3</sup>
Density (Molded)**	ISO 1183 / PA_138	1.28	g/cm <sup>3</sup>	0.0462	lb/in <sup>3</sup>
<b>Mechanical Properties**</b>					
Tensile Strength	ISO 527 / PA_098	1) 280 2) 51	MPa	1) 40614 2) 7398	psi
Tensile Elongation at Break	ISO 527 / PA_098	1) 2.2 2) 1.7	%	1) 2.2 2) 1.7	%
Tensile Modulus	ISO 527 / PA_098	1) 14200 2) 4250	MPa	1) 2060 2) 616	ksi
Flexural Strength	ISO 178 / PA_100	1) 269 2) 106	MPa	1) 39018 2) 15375	psi
Flexural Modulus	ISO 178 / PA_100	1) 10430 2) 4000	MPa	1) 1513 2) 580	ksi
Impact Strength IZOD (3.2 mm)	ASTM D256 E	1) 1830 2)	J/m	1) 34 2)	ft*lb(wt)/in
Charpy (4.0 mm)	ISO 179-1/2fn / PA_97	1) 205 2) 64	kJ/m <sup>2</sup>	1) 98 2) 30	ft*lb/in <sup>2</sup>
Multiaxial Impact (4.0 mm)					
Max. Load	ASTM D-3763	5600	N	1259	lb(wt)
Energy @ Max. Load		33	J	24	ft*lb
Energy @ Failure		62	J	46	ft*lb
Max. Load	ISO 6603-2 / PA_406	6714	N	1509	lb(wt)
Energy @ Max. Load		24	J	18	ft*lb
Energy @ Failure		46	J	34	ft*lb
<b>Processing Properties**</b>					
Molding Shrinkage	ISO 2577	0.15 - 0.25	%	0.15 - 0.25	%
<b>Special Properties**</b>					
Coefficient of Thermal Expansion	EN ISO 11403-2	1) 15-25 2) 40-50	10 <sup>-6</sup> /K	1) 15-25 2) 40-50	10 <sup>-6</sup> /K
Burning Rate	ISO 3795 / FMVSS302	2 - 3	mm/min	0.08 - 0.12	in/min

1) = measured in longitudinal direction

2) = measured in transverse direction

3) = crosswise molded

4) = lengthwise molded

\* = Property was determined on the laminate

\*\* = Property was determined on flat molded plaques

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