

# WINDFORM<sup>®</sup> FX

**CLASS OF MATERIAL:** Polyamide based material

**TECHNOLOGY:** Selective Laser Sintering

Windform<sup>®</sup> FX is a new generation polyamide based material, whose repeatability and mechanical characteristics make it particularly suited for Rapid Manufacturing applications. White coloured, Windform<sup>®</sup> FX is characterized by: exceptional resistance and resilience to repeated bending and torsion applications; excellent impact resistance; consistency and behaviour similar to polypropylene and ABS injection moulded parts. Windform<sup>®</sup> FX is perfect for building accurate, reliable and long lasting prototypes; no further treatments are needed. The powder also benefits from extended recycling and lower refresh rates.

**APPLICATIONS:**

Flexible components, functional parts with living hinges or clip fittings. In addition, ducts of a complex shape, with thin walls, particularly suited for aerospace and motorsport, dashboards and grids, fenders, fans and connectors. These are only a few examples: versatility of the product united with the technology used in this case actually allow infinite possibilities of use.

**WHERE TO FIND WINDFORM<sup>®</sup> PRODUCTS**

CRP Technology produces Windform<sup>®</sup> FX particulars and offers a customized service as regards time and delivery conditions, according to customer's requests anywhere in the world.

**HOW TO GET WINDFORM<sup>®</sup> PRODUCTS**

For further information, quotations, and delivery times, please visit the official website [www.windform.it](http://www.windform.it) or send an information request to [info@crp.eu](mailto:info@crp.eu). CRP will contact you to answer all your questions.



FROM AMONGST  
THE STRONGEST COMES  
THE MOST FLEXIBLE

PROPERTIES WINDFORM <sup>®</sup> FX	Test Method	SI Unity	Windform <sup>®</sup> FX
<b>GENERAL PROPERTIES</b>			
Density (20° C)		g/cm <sup>3</sup>	1,027
Colour			WHITE
<b>THERMAL PROPERTIES</b>			
Melting Point	ASTM D 3418	°C	190,70
HDT, 1.82 Mpa	ASTM D 648	°C	47,10
Vicat 10N	ASTM D 1252	°C	186,70
<b>MECHANICAL PROPERTIES</b>			
Tensile Strength	UNI EN ISO 527-1(97) UNI EN ISO 527-2(97)	Mpa	48,96
Tensile Modulus	UNI EN ISO 527-1(97) UNI EN ISO 527-2(97)	Mpa	1357,00
Elongation at break	UNI EN ISO 527-1(97) UNI EN ISO 527-2(97)	%	43,90
Flexural Strength	UNI EN ISO 14125: 2000	Mpa	45,00
Flexural Modulus	UNI EN ISO 14125: 2000	Mpa	952,20
Impact Stength - Charpy Unnotched (23°C)	UNI EN ISO 179-1:2002/1eU	KJ/m <sup>2</sup>	31,72
Impact Stength - Charpy Notched (23°C)	UNI EN ISO 179-1:2002/1eB	KJ/m <sup>2</sup>	3,25
<b>SURFACE FINISH</b>			
After SLS Process		Ra µm	6
After finishing		Ra µm	2
<b>PROPERTIES PER DENSITY UNIT</b>			
UTS per Density Unit		Mpa g/cm <sup>3</sup>	47,67
Tensile modulus per Density Unit		Mpa g/cm <sup>3</sup>	1321,32
<b>ELECTRICAL PROPERTIES</b>			
Resistivity, Volume	ASTM D257	ohm	2,3x10 <sup>14</sup>
Resistivity, Surface	ASTM D257	ohm cm	0,9x10 <sup>14</sup>

**Note:** These are all indicative values, data were generated from the testing of parts produced with the Windform<sup>®</sup> FX materials under optimal processing conditions.

**Standard Technical Details for Accuracy versus Tolerance:**

For parts up to 6" (150 mm) the standard tolerance is: +/- 0.012 inch (0,3 mm)

For parts more then 6" (150 mm) the standard tolerance is: +/- 0.002 inch per inch (0.05 mm per 25mm)