

# XECARB® 2-C30-ST

30% carbon fiber-reinforced PA6

## data sheet

Property	Test Condition	Standard		Unit	Value d.a.m.	Cond.
		ISO	ASTM			

### physical properties

Density		1183		g/cm <sup>3</sup>	1,18	
Water absorption (Equilibrium value)	23 °C ; 50 % RH			%		
Water absorption (Saturation value)	23°C ; water			%		
Post-shrinkage						
Parallel		294-4		%	0,1 – 0,3	
Transverse		294-4		%	0,2 – 0,5	

### mechanical properties

Tensile Modulus	1 mm/min	527		MPa	17810	
Tensile Strength at break	5 mm/min	527		MPa	176	
Tensile Elongation at break	5 mm/min	527		%	3.8	
Flexural Modulus	2 mm/min	178		MPa	14580	
Flexural Strength	2 mm/min	178		MPa	360	
Flexural Stress at 3,5% strain	2 mm/min	178		MPa	259	
Flexural Strain at break	2 mm/min	178		%	2,5	
Notched Izod Impact Strength	23 °C ; 50 % RH	180		kJ/m <sup>2</sup>	18	
Unnotched Izod Impact Strength	23 °C ; 50 % RH	180		kJ/m <sup>2</sup>	72	
Notched Izod Impact Strength	-30 °C	180		kJ/m <sup>2</sup>	10	
Unnotched Izod Impact Strength	-30 °C	180		kJ/m <sup>2</sup>	73	

### thermal properties

Melting Point	10 °C/min	11357		°C	221	
HDT – heat deflection temperature						
0,45 MPa	120 °C/h	75		°C	219	
1,80 MPa	120 °C/h	75		°C	206	
8,00 MPa	120 °C/h	75		°C	153	
VICAT - softening temperature	10 N a 120 °C / h	306		°C	213	
VICAT - softening temperature	50 N a 120 °C / h	306		°C	204	
Coefficient of linear thermal expansion						
30÷50°C Long.				10 <sup>-4</sup> /K		
30÷50°C Trasv.				10 <sup>-4</sup> /K		
Maximum Usage Temperature						
Short Term				°C		
Long Term				°C		

### other properties

Rockwell hardness

# XECARB<sup>®</sup> 2-C30-ST

Property	Test Condition	Standard		Unit	Value	
		ISO	ASTM		d.a.m.	Cond.
<b>processing recommendations</b>						
Drying temperature	desiccant dryer			°C	80 – 100	
Drying time	desiccant dryer			h	6 – 8	
Melt temperature				°C	260 – 270	
Mould temperature				°C	80 – 100	

Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets, and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.

## Test values

Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the coloring.

## Processing note

Under the recommended processing condition small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded. Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.

Edition: 6 november 2014