

# TECHNYL®

## TECHNYL® C 52G1 WHITE 2297 CF

TECHNICAL DATA SHEET

Revised: April, 2017

TECHNYL® C 52G1 White 2297 CF is an unreinforced polyamide 6 based on a non-phosphorous and non-halogenated flame retardant system, heat stabilized, for injection moulding. This flame retardant grade has an excellent mouldability and mechanical properties combined with very stable glow wire performance.

### GENERAL

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe
Additive	• Flame Retardant • Heat Stabilizer
Key Benefits	• Glow Wire Resistance • UL 94 V2 at 0.8 mm
Applications	• Electrical/Electronic Applications • Switch, Plug, Control & Sockets
Certification/Compliance	• EC 1907/2006 (REACH) • UL QMFZ2
Colors Available	• Black • Grey • White
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID (ISO 1043)	• PA6 FR(30)

### PROPERTIES

Typical values of properties are for Natural grades

Physical	Dry	Conditioned	Unit	Test Method
Molding Shrinkage				ISO 294-4
Across Flow	0.75		%	
Flow	0.90		%	
Water Absorption				ISO 62
24 hr, 23°C	2.0		%	
Equilibrium, 23°C, 50% RH	3.1		%	
Density	1.18		g/cm <sup>3</sup>	ISO 1183/A
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3500	1000	MPa	ISO 527-2/1A
Tensile Stress				ISO 527-2/1A
Yield, 23°C	90	40	MPa	
Break, 23°C	80	40	MPa	
Tensile Strain (Break, 23°C)	10	> 150	%	ISO 527-2
Flexural Modulus (23°C)	3400	1000	MPa	ISO 178
Flexural Stress (23°C)	125	40.0	MPa	ISO 178



Mechanical	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	4.0		kJ/m <sup>2</sup>	
23°C	4.0	15	kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	100		kJ/m <sup>2</sup>	
23°C	90	No Break	kJ/m <sup>2</sup>	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	193		°C	ISO 75-2/Bf
1.8 MPa, Unannealed	45		°C	ISO 75-2/Af
Melting Temperature	220		°C	ISO 11357-3
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+13	1.0E+11	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+12	ohms·cm	IEC 60093
Electric Strength (0.800 mm)	33		kV/mm	IEC 60243-1
Relative Permittivity	3.60	4.00		IEC 60250
Dissipation Factor	0.020	0.060		IEC 60250
Comparative Tracking Index (Solution A)	600		V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.8 mm	V-2			
1.6 mm	V-2			
3.2 mm	V-2			
Glow Wire Flammability Index				IEC
0.8 mm	960		°C	60695-2-12
1.6 mm	960		°C	
3.2 mm	960		°C	

## PROCESSING

Injection	Dry Unit
Drying Temperature	80 °C
Suggested Max Moisture	0.20 %
Rear Temperature	230 to 235 °C
Middle Temperature	235 to 240 °C
Front Temperature	235 to 245 °C
Mold Temperature	60 to 80 °C

### Injection Notes

The material is supplied in airtight bags, ready for use. In case that the virgin material has absorbed moisture, it must be dried with a dehumidified air drying equipment, dew point mini -20°C. Recommended time 2-4h

### Injection Advice:

- All reinforced, flame retardant compounds generate some level of abrasion/corrosion to the steel processing equipment. These issues may be magnified by using incorrect processing conditions (temperatures, residence time, moisture level ...) during the moulding process. Therefore, Solvay recommends you adhere to the processing conditions detailed in this technical data sheet. For equipment that comes into contact with molten flame retardant compounds, Solvay advises you to use a steel with high chromium and high carbon content (having a minimum concentration of 16% Chromium) to prevent corrosion and abrasion. For the correct reference of steel associated to flame retardant compounds' processing, please refer to your equipment manufacturers. In the case of high requirements on surface quality a mould temperature of up to 120°C can be considered.

## DISCLAIMER

The information contained in this document is given in good faith based on our current knowledge. It is only an indication and it is in no way binding. This information must on no account be used as a substitutive for necessary prior tests which alone can ensure that a product is suitable for a given use. ANY WARRANTY OF PRODUCT PERFORMANCE, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED. Users are responsible for ensuring compliance with local legislation and for obtaining the necessary certifications and authorizations. Users are requested to check that they are in possession of the latest version of this document, and Solvay is at their disposal to supply any additional information.



## SAFETY INFORMATION

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Detailed information regarding safety are available on the safety data sheet (SDS). SDS is sent with the first material order or available by contacting our customer services

## REGULATIONS COMPLIANCE

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This product is not intended to be used for the following regulated market: food contact, drinking water, toys, cosmetics or medical devices.

Grades produced or imported in Europe comply with REACH directive 1907/2006/EC as amended.

## CUSTOMER SERVICES

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Our customer services are not only concerned with manufacturing and supply of Engineering Plastics products. We are available to assist our customers in finding technical solutions that meet their requirements. Specific support is in particular offered on:

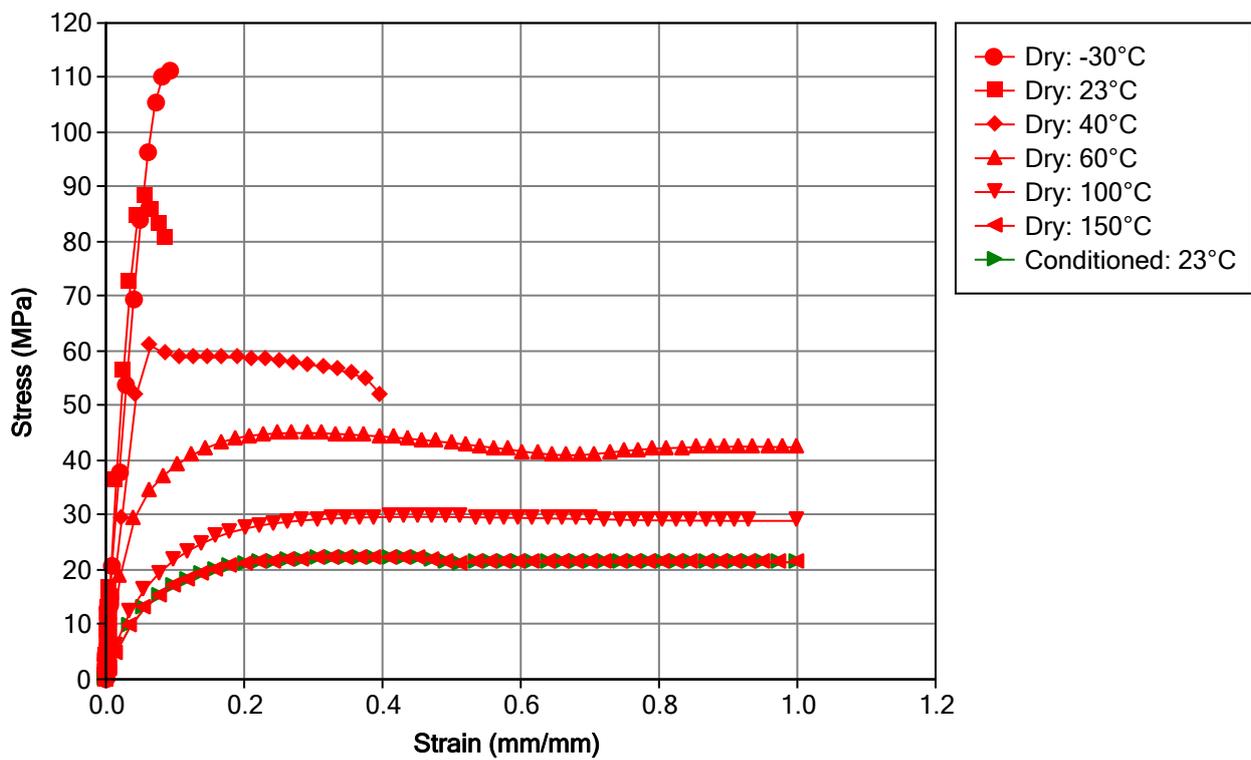
- Material selection
- Material testing
- Parts design advice, training for design engineers
- Part testing
- Design simulation
- Processing through different technologies
- Assembly and post-processing technology expertise
- Parts optimization through Computer Aided Design

You can find more information on Solvay Product range on our internet product finder at the following address: <http://www.technyl.com>



### MULTIPOINT DATA

Isothermal Stress vs. Strain (ISO 11403-1)



### Notes

Typical properties: these are not to be construed as specifications.

