

XYRON® POLYPHENYLENE ETHER ENGINEERING THERMOPLASTIC

XYRON® IS A REGISTERED TRADEMARK OF ASAHI KASEI CORPORATION (JAPAN)

XYRON® G703H

XYRON® G703H is a 30% glass fibre filled moulding grade of modified PPE (a Polyphenylene Ether and High Impact Polystyrene blend) and offers an exceptional balance of product rigidity and strength, creep resistance, electrical insulation, low moisture absorption, high heat resistance, high dimensional stability, mouldability and low product density. Typical applications include business machine and telephone chassis units, industrial water pumping connectors and pressure vessel housings and high tolerance electrical connector assemblies.

	<u>CONDITIONS</u>	<u>UNITS</u>	<u>TYPICAL VALUES</u>	<u>TESTING METHODS</u>
<u>1. Mechanical Properties</u>				
Notched Izod Impact Strength	12.7 x 3.2 mm	J/m	98	ASTM D256
Tensile Strength	12.7 x 3.2 mm @ 5 mm/min	MPa	120	ASTM D638
Elongation to Fail	12.7 x 3.2 mm @ 5 mm/min	%	3	ASTM D638
Flexural Strength	12.7 x 3.2 mm @ 1.3 mm/min	MPa	150	ASTM D790
Flexural Modulus	12.7 x 3.2 mm @ 1.3 mm/min	MPa	6500	ASTM D790
<u>2. Thermal Properties</u>				
Heat Deflection Temperature	12.7 x 12.7 mm @ 1.82 Mpa	°C	138	ASTM D648
	12.7 x 3.2 mm @ 1.82 Mpa	°C	135	ASTM D648
Coefficient of Linear Thermal Expansion		cm/cm/°C	2.8 exp-5	ASTM D696
<u>3. Electrical Properties</u>				
Volume Resistivity		Ohm.cm	>10exp16	ASTM D257
Dielectric Strength		MV/m	44	ASTM D149
Arc Resistance	Tungsten Electrode	s	70	ASTM D495
<u>4. Physical Properties</u>				
Specific Gravity		-	1.30	ASTM D792
Rockwell Hardness		R	125	ASTM D785
UL Flammability	0.8 mm	Rating	HB	UL 94
Water Absorption	24 hours	%	0.06	ASTM D570
Reinforcement Level		%	30	n/a
Mould Shrinkage	3.0 x Ø100 mm disc	%	0.2 - 0.3	ASTM D955

All test results were obtained using natural material.

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Material Safety Data Sheet (MSDS): Code Xyron

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MARPLEX AUSTRALIA PTY. LTD. 221 BROWNS ROAD, NOBLE PARK, VICTORIA 3174

CUSTOMER SERVICE: PHONE 03 8710 1415, 1800 627 987, FAX 03 9795 6300

TECHNOLOGY DEPARTMENT: PHONE 03 8710 1432, FAX 03 9795 1800

SALES OFFICES: MELBOURNE 03 8710 1400 • SYDNEY 02 9891 0044 • ADELAIDE 08 8274 3710
BRISBANE 07 3842 3152 • PERTH 08 9429 8814 • AUCKLAND, NZ 09 633 0233

TYPICAL PROCESSING CONDITIONS

XYRON® G703H

The following typical guidelines are offered as initial processing conditions for **XYRON® G703H**. In practice, processing parameters may need to be varied to give commercially acceptable performance in conjunction with optimum physical properties. For specific technical advice on part design or processing conditions, contact the Marplex Technical Service Department.

Temperature of pellet bed in dehumidifying drier	105 - 110 °C
Minimum drying time at desired pellet bed temp	3 - 5 hours
Mould temperature	60 - 100 °C
Nozzle temperatures	Do not exceed stock temperature
Stock temperature	260 - 290 °C
Cylinder temperatures	Rear 245 - 265 °C
	Middle 255 - 275 °C
	Front 265 - 285 °C
Fill speed	Medium
Screw speed	40 - 60 rpm
Screw back pressure	Minimum
Injection pressure	60 - 140 MPa
Clamp pressure	4 - 8 kN/cm ²

Comment(s):

- 1 Cleanliness of the dryer, machine hopper and machine screw/barrel/nozzle assembly are essential for processing Xyron® Modified PPE and producing contamination free moulded components.
- 2 Xyron® Modified PPE is not compatible with other polymers.
- 3 It is suggested that the pre-drying, die head, roller and material temperatures are manually confirmed using a hand held temperature measuring device.
- 4 Minimise screw back speed during recharge to limit glass fibre breakage.

Conversions:

- 1 MPa = 145 psi
- = 10.2 kg/cm²
- = 10 bar
- °C = 5(°F-32)/9
- 1 kN/cm² = 0.65 ton/in²