

XYRON® POLYPHENYLENE ETHER

ENGINEERING THERMOPLASTIC

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

XYRON® VM502

XYRON® VM502 is an acoustic damping grade of modified PPE (a Polyphenylene Ether and High Impact Polystyrene blend) it is 20% glass fibre and mineral reinforced to offer an exceptional balance of product flame retardancy, rigidity and strength, creep resistance, electrical insulation, low moisture absorption, high heat resistance, dimensional stability, mouldability, low product density and improved acoustic properties. Typical applications include housings for business machines and other appliances where combination of the above properties and low noise attenuation is desired.

	<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	69	ASTM D256
Tensile Strength	12.7 x 3.2 mm @ 5 mm/min	MPa	58	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	112	ASTM D790
Flexural Modulus	12.7 x 3.2 mm @ 1.3 mm/min	MPa	3950	ASTM D790
<u>2. Thermal Properties</u>				
Heat Deflection Temperature	12.7 x 12.7 mm @ 1.82 Mpa	°C	120	ASTM D648
	12.7 x 3.2 mm @ 1.82 Mpa	°C	115	ASTM D648
Coefficient of Linear Thermal Expansion		cm/cm/°C	5.0 exp-5	ASTM D696
<u>3. Electrical Properties</u>				
Volume Resistivity		Ohm.cm	1 exp-16	ASTM D257
Surface Resistivity		Ohm	1 exp-16	ASTM D257
<u>4. Physical Properties</u>				
Specific Gravity		-	1.22	ASTM D792
UL Flammability	1.6 mm	Rating	V-1	UL 94
Water Absorption	24 hours	%	0.06	ASTM D570
Reinforcement Level		%	20	n/a
Mould Shrinkage	3.0 x Ø100 mm disc	%	0.35 - 0.6	ASTM D955



TYPICAL PROCESSING CONDITIONS

XYRON® VM502

The following typical guidelines are offered as initial processing conditions for **XYRON® VM502**. 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	90- 100 °C
Minimum drying time at desired pellet bed temp	3 - 5 hours
Mould temperature	50 - 100 °C
Nozle temperatures	Do not exceed stock temperature
Stock temperature	260 - 300 °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

