

Valox\* PBT resins



## Green and cool

Non-brominated and non-chlorinated,  
flame retardant Valox PBT resin

## Valox\* Non-brominated and non-chlorinated FR resin

The Valox ENH resins are non-brominated and non-chlorinated, flame retardant (FR) PBT resins designed to meet many environmental regulations. These resins can also be customized to meet specific customer requirements in keeping with global standards on environmental protection.

### Waste legislation and environmental labels Drive for materials meeting halogen-free requirements

(A) Restrictions of use of hazardous substances (RoHS) directive phase-out lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenylethers (PBDE) in EEE WEEE.

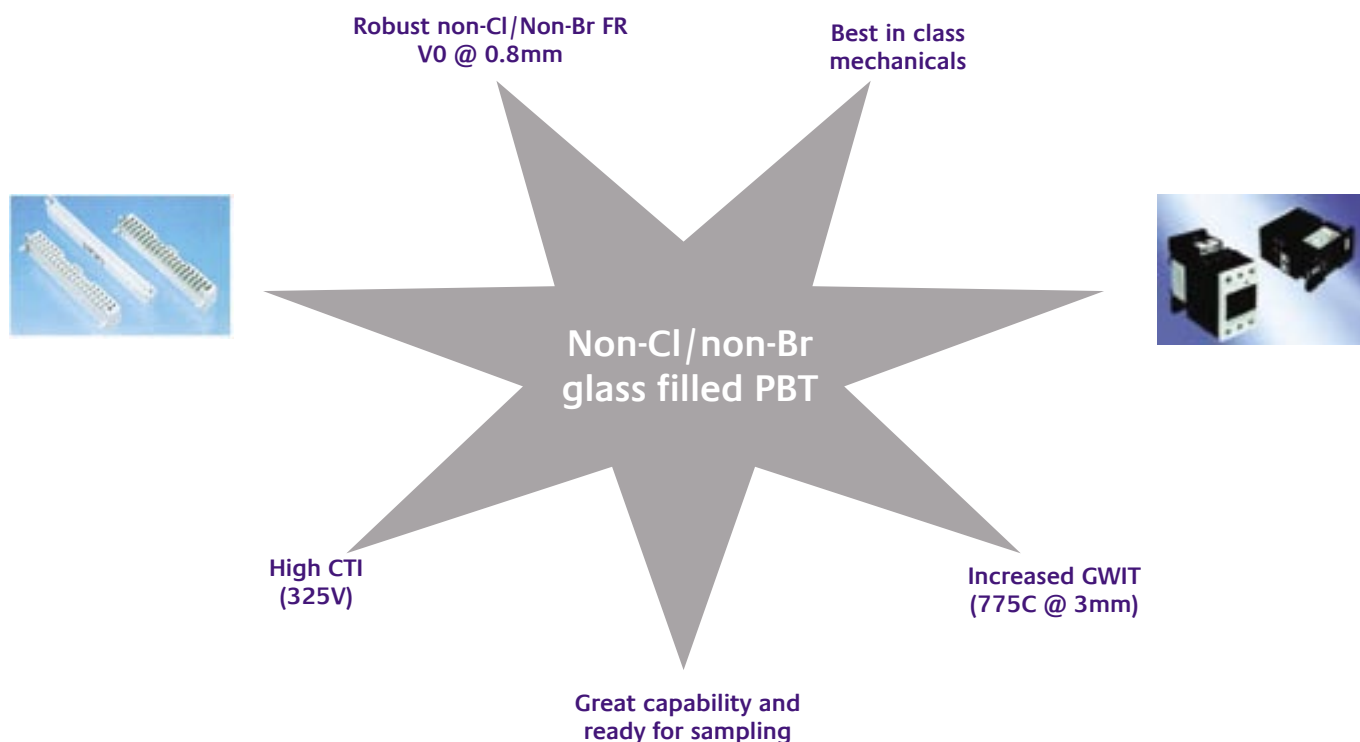
(B) WEEE directive  
Producer responsibility for collection and recovery end of life EEE.  
Plastic containing brominated flame retardants removed from E&E waste, separate treatment.

(C) TCO'99  
Part/application ECO label, where the plastic component shall not contain flame retardants that contain organically bound chlorine or bromine.

(D) Blue Angel  
Part/application ECO label, where the plastic component shall not contain flame retardant that are chlorinated nor brominated and that the PTFE level is below



### Non-brominated and non-chlorinated FR PBT Valox ENH resin



# Valox\* ENH 4550 resin preliminary product datasheet

## Valox ENH 4550 resin / (non-Cl/non-br glass filled Valox resin)

Valox ENH 4550 resin			Europe-Africa-Middle East
PBT, flame retardant non-chlorinated, non-brominated, glass, mold release, PTFE, flame retardant, heat stabilized, non-chlorinated, non-brominated 25% glass filled PBT			
Mechanical			
Property	Typical Data	Unit	Method
Tensile stress, yield, 5 mm/min	116	MPa	ISO 527
Tensile stress, break, 5 mm/min	116	MPa	ISO 527
Tensile strain, yield, 5 mm/min	2	%	ISO 527
Tensile strain, break, 5 mm/min	2	%	ISO 527
Tensile modulus, 1 mm/min	10000	MPa	ISO 527
Flexural strength, yield, 2 mm/min	170	MPa	ISO 178
Flexural modulus, 2 mm/min	8750	MPa	ISO 178
Impact			
Property	Typical Data	Unit	Method
Charpy impact, unnotched, 23°C	42	kJ/m <sup>2</sup>	ISO 179/2C
Charpy impact, unnotched, -30°C	38	kJ/m <sup>2</sup>	ISO 179/2C
Izod impact, unnotched 80*10*4 +23°C	36	kJ/m <sup>2</sup>	ISO 180/1U
Izod impact, unnotched 80*10*4 -30°C	36	kJ/m <sup>2</sup>	ISO 180/1U
Izod impact, notched 80*10*4 +23°C	7,5	kJ/m <sup>2</sup>	ISO 180/1A
Izod impact, notched 80*10*4 -30°C	7,5	kJ/m <sup>2</sup>	ISO 180/1A
Charpy impact, notched, 23°C	7,5	kJ/m <sup>2</sup>	ISO 179/2C
Charpy impact, notched, -30°C	8	kJ/m <sup>2</sup>	ISO 179/2C
Thermal			
Property	Typical Data	Unit	Method
Ball pressure test, 125°C +/- 2°C	Pass	-	IEC 60695-10-2
Vicat softening temp, rate B/120	206	°C	ISO 306
HDT/Bf, 0.45 MPa flatw 80*10*4 sp=64mm	222	°C	ISO 75/Bf
HDT/Af, 1.8 MPa flatw 80*10*4 sp=64mm	206	°C	ISO 75/Af
Physical			
Property	Typical Data	Unit	Method
Mold shrinkage on tensile bar, flow (2)	0.3 - 0.4	%	SABIC Innovative Plastics method
Density	1,52	g/cm <sup>3</sup>	ISO 1183
Melt volume rate, MVR at 250°C/5.0 kg	20	cm <sup>3</sup> /10 min	ISO 1133
Glass filler content	25	%	- -
Electrical			
Property	Typical Data	Unit	Method
Comparative tracking index	325	V	IEC 60112
Flame Characteristics			
Property	Typical Data	Unit	Method
UL compliant, 94V-0 flame class rating (3)(4)	0,8	mm	UL 94 by SABIC Innovative Plastics
Glow wire flammability index 960°C, passes at	1	mm	IEC 60695-2-12
Glow wire ignitability temperature, 1.0 mm	750	°C	IEC 60695-2-13
Glow wire ignitability temperature, 2.0 mm	700	°C	IEC 60695-2-13
Glow wire ignitability temperature, 3.0 mm	775	°C	IEC 60695-2-13
Processing			
Property	Typical Data	Unit	Method
Injection molding	Values	Units	
Mold temperature	40 - 100	°C	
Melt temperature	250 - 270	°C	
Nozzle temperature	240 - 260	°C	
Front - zone 3 temperature	245 - 265	°C	
Middle - zone 2 temperature	240 - 255	°C	
Rear - zone 1 temperature	230 - 245	°C	
Hopper temperature	40 - 60	°C	
Maximum moisture content	0,02	%	
Drying time	4-Feb	hrs	
Drying temperature	110 - 120	°C	

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