Ticona
Engineering Polymers

RITEFLEX® 647 | TEEE | Unfilled

Description

Riteflex 647 is a thermoplastic polyester elastomer with nominal hardness of 47 Shore D and medium modulus.

Physical properties	Value	Unit	Test Standard
Density	**1170**	kg/m³	ISO 1183
Melt flow rate (MFR)	**8.5**	g/10 min	ISO 1133
MFR test temperature	**220**	°C	ISO 1133
MFR test load	**2.16**	kg	ISO 1133
Mold shrinkage - parallel	**1.3-1.8**	%	ISO 294-4
Mold shrinkage - normal	**1.5-1.9**	%	ISO 294-4
Water absorption (23°C-sat)	**0.5**	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	**125**	MPa	ISO 527-2/1A
Tensile stress at 50% strain (50mm/min)	**12**	MPa	ISO 527-2/1A
Tensile strain at break (50mm/min)	**300**	%	ISO 527-2/1A
Flexural modulus (23°C)	**125**	MPa	ISO 178
Flexural stress @ 3.5% strain	**4**	MPa	ISO 178
Charpy impact strength @ 23°C	**NB**	kJ/m²	ISO 179/1eU
Charpy impact strength @ -30°C	**NB**	kJ/m²	ISO 179/1eU
Charpy notched impact strength @ 23°C	**NB**	kJ/m²	ISO 179/1eA
Charpy notched impact strength @ -30°C	**NB**	kJ/m²	ISO 179/1eA
Shore hardness D scale 15 sec value	**47**	-	ISO 868
Ross flex	**>1000000**	cycles	Internal

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	**187**	°C	ISO 11357-1,-2,-3
DTUL @ 0.45 MPa	**62**	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	**2**	E-4/°C	ISO 11359-2
Flammability at thickness h	**HB**	class	UL94
thickness tested (h)	**1.5**	mm	UL94

Electrical properties	Value	Unit	Test Standard
Relative permittivity - 1 MHz	**4.6**	-	IEC 60250
Dissipation factor - 1 MHz	**400**	E-4	IEC 60250
Volume resistivity	**4E12**	Ohm*m	IEC 60093
Electric strength	**13**	kV/mm	IEC 60243-1
Comparative tracking index CTI	**>600**	-	IEC 60112

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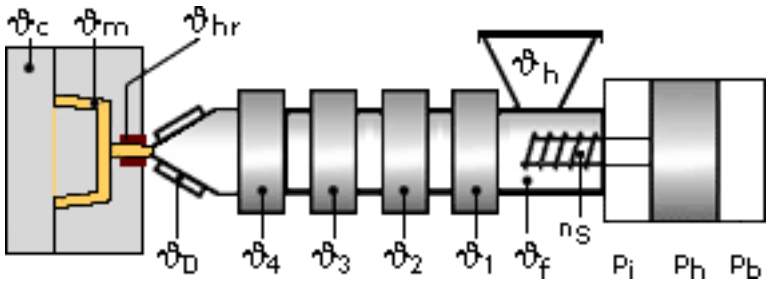
Typical injection moulding processing conditions



Maximum residual moisture content: 0.0500%

Processing Temperatures:

	ϑ Cavity	ϑ Melt	ϑ Hot Runner	ϑ Die	ϑ 4	ϑ 3	ϑ 2	ϑ 1	ϑ Feeding	ϑ Hopper
min (°C)	20	190	190	190	185	185	185	185	185	20
max (°C)	55	215	215	215	215	210	210	200	200	50

Processing Pressures:

No info

Injection speed: medium - fast

Screw speed:

Screw diameter (mm)	16	25	40
Screw speed (rpm)	200	140	80

Pre-drying conditions:

To avoid hydrolytic degradation during processing, Riteflex resins have to be dried to a moisture level equal to or less than 0.05%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 225°F (107°C) for 4 hours.

For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.

Drying time: 4 h

Drying temperature: 100 - 110 °C

Special information:

No special information available.

Injection Molding

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Rear Temperature    370-390(185-200) deg F (deg C)
Center Temperature  390-410(200-210) deg F (deg C)
Front Temperature   390-420(200-215) deg F (deg C)
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Nozzle Temperature	390-420(200-215)	deg F (deg C)
Melt Temperature	390-420(200-215)	deg F (deg C)
Mold Temperature	75-125(20-55)	deg F (deg C)
Back Pressure	0-50	psi
Screw Speed	Medium	
Injection Speed	Fast	

Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided, in particular for flame retardant grades. Up to 25% clean and dry regrind may be used.

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*starting 01.01.2007 0,14€/minute + local landline rates
**0,06€/Call + local landline rates

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