## EcoTPEsuper

# Same quality, just recycled.

**O**ecorub

EcoRub

EcoTPEsuper

## A Brief Overview of EcoTPEsuper

EcoRubs' recycled thermoplastic elastomeric materials (TPE) are flexible, rubber-like materials with an optimal balance of elasticity and mechanical properties.

These circular TPE materials exhibit excellent weather resistance, facilitate easier product manufacturing, and are entirely recyclable with 30-50% recycled content.

- · Available in large quantities
- Suitable for product manufacturing through injection moulding
- Black Pellets
- Excellent adhesion in 2K injection moulding with PP (polypropylene) and PE (polyethylene)
- Based on SEBS
- 70-90 shore A



Recycled Thermoplastic Elastomers



Black Colour Pellets

30-50%

Amount of recycled content

Examples of applications



**Tool handles** 



Vehicle parts

#### Elastic Superior elasticity in your products

	Hardness	Tensile Strength	Stress at 100% Strain	Stress at 300% Strain	Elonga- tion at break	Tear Strength
	ISO 868	ISO 37	ISO 37	ISO 37	ISO 37	ISO 34
	Shore A	MPa	MPa	MPa	%	kN/m
EcoTPEsuper Elastic - 70	68	6.8	2.7	4.3	550	15
EcoTPEsuper Elastic - 90	86	10.1	4.8	6.7	560	21

#### Strength Enhanced mechanical properties and maintained flexibility

	Hardness	Tensile Strength	Stress at 100% Strain	Stress at 300% Strain	Elonga- tion at break	Tear Strength
	ISO 868	ISO 37	ISO 37	ISO 37	ISO 37	ISO 34
	Shore A	MPa	MPa	MPa	%	kN/m
EcoTPEsuper Strength - 70	71	8.3	3.1	4.7	730	17
EcoTPEsuper Strength - 90	86	10	4.9	6.5	610	27

#### Flow Injection moulding of large and complicated parts

	Hardness	Tensile Strength	Stress at 100% Strain	Stress at 300% Strain	Elonga- tion at break	Tear Strength
	ISO 868	ISO 37	ISO 37	ISO 37	ISO 37	ISO 34
	Shore A	MPa	MPa	MPa	%	kN/m
EcoTPEsuper Flow - 75	74	6	2.9	4.5	480	14
EcoTPEsuper Flow - 85	85	9	4.5	6.3	540	18

## Injection moulding guide

Screw Speed & Back Pressure: It is recommended to use a screw speed that plasticize EcoTPEsuper just prior to the next shot and a back pressure required to avoid leakage in the mould after the shot.

Decompression of 5-15 mm is recommended generally.

**Injection Pressure:** Orientation, overheating and overfilling can occur when too high injection pressures are used. Use the minimal injection pressure required to achieve uniform filling of the mould and a smooth surface.

**Injection Speed:** EcoTPEsuper exhibit shear thinning that reduces the viscosity by increasing the share rate. High injection speeds are thus advantages for filling the mould. A small material cushion of about 5 mm is recommended to avoid follow-up packing.

Holding & Holding Pressure Time: It is recommended to optimize the holding pressure and holding time to avoid both overfilling and avoid shrink marks. Overfilling is the most common of the above-mentioned artefacts which can be avoided by using low holding pressures and short holding times.

**Venting** is necessary due to that normal/high injection speed should be used during injection moulding of EcoTPEsuper.

**Clamping Force:** There is generally no need to apply a high clamping force and a mould pressure of 25-45 MPa are generally sufficient depending on mould size.

#### **Cooling Time**

Generally a cooling time of 15-25 s is sufficient for 2 mm thickness while cooling times of 30-60 s are normally sufficient for a thickness in between 2-6 mm.

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PRE-drying	Cylinder temperature	Mould temperature
3-4 h at 70°	180-210° barrel temperature	30-60°

General recommendations on injection moulding

#### Key takeaways



Generally: 5-15 mm decompression



Too high injection pressures can cause overheating and overfilling



Cooling time for **2-6 mm** thickness



Cooling time for **2 mm** thickness

# Excellent freight connections throughout Europe



EcoTPEsuper

### **Product Carbon Footprint** EcoTPEsuper Elastic



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## We're taking the next sustainable step now!

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