

Exoblend® TF

PC/ABS blend sheet



Features:

- extreme impact strength in a broad temperature range
- good thermoforming properties



Exoblend® TF is a PC-ABS blend sheet, with high impact resistance down to -30 °C. The resin has been developed for the automotive industry – including commercial vehicles – and has been approved by several original equipment manufacturers. The material's specific properties make it suitable for both interior and exterior applications. **Exoblend® TF** combines high heat resistance and extreme impact strength in a wide temperature range (-30°C up to +100°C). The sheets can be thermoformed and are easy to machine. **Exoblend® TF** is available in several colours and with several textures.

Applications

Exoblend® TF is particularly suited to thermoform:

- motor hoods, fenders, bumpers and side panels for tractors, trucks, agriculture and construction machinery
- interior liners and covers for above mentioned vehicles and machinery
- transport and travel cases

	Test Conditions	Typical values ⁽¹⁾	Unit	Standard
PHYSICAL				
Density		1130	kg/m ³	ISO 1183-1
Water absorption saturation	water at 23°C	0.7	%	ISO 62
Water absorption equilibrium	23°C, 50 % relative humidity	0.2	%	ISO 62
MECHANICAL				
Tensile modulus	1 mm/min	2400	MPa	ISO 527-1,-2
Yield stress	50 mm/min	54	MPa	ISO 527-1,-2
Yield strain	50 mm/min	4.4	%	ISO 527-1,-2
Nominal strain at break	50 mm/min	> 50	%	ISO 527-1,-2
Izod impact strength	23°C, unnotched	no break	kJ/m ²	ISO 180-U
Izod impact strength	-30°C, unnotched	no break	kJ/m ²	ISO 180-U
Izod impact strength	23°C, notched	45	kJ/m ²	ISO 180-A
Izod impact strength	-30°C, notched	35	kJ/m ²	ISO 180-A
THERMAL				
Vicat softening temperature	50 N, 50°C/h	118	°C	ISO 306
Coefficient of linear thermal expansion	23 to 55°C	0.8	10 ⁻⁴ /K	ISO 11359-1,-2
Temperature of deflection under load	1.80 Mpa	102	°C	ISO 75-1,-2
Temperature of deflection under load	0.45 Mpa	122	°C	ISO 75-1,-2
ELECTRICAL				
Electrical strength	1 mm	35	kV/mm	IEC 60243-1
Volume resistivity		1E14	Ohm.cm	IEC 60093
Surface resistivity		1E16	Ohm	IEC 60093
Relative permittivity	100 Hz	3.1	-	IEC 60250
Relative permittivity	1 MHz	3.0	-	IEC 60250
Dissipation factor	100 Hz	30	10 ⁻⁴	IEC 60250
Dissipation factor	1 MHz	85	10 ⁻⁴	IEC 60250

⁽¹⁾ These values are measured on injection molded samples, and are not intended for specification purposes.

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Ideas, innovative, intelligent, interesting... Exolon Group i-line represents the next generation of quality products. This seal guarantees innovative and intelligent first-class solutions at all times for a multitude of requirements.

Fire rating

Application domain	Standard	Country	Rating
Road transport	Directive 95/28 ECC	Europe	pass (4 mm)

Long term service temperature

Max. service temperature in air	105 °C
Min. service temperature	-30 °C

Availability

Exoblend® TF is available in different surface patterns. Colour samples can be provided on request. All grades can be produced with UV protection for outside use.

Sizes

Surface structure	max.extrusion	thickness
T	2,050 mm	2 – 6 mm
Smooth both sides	2,050 mm	2 – 6 mm

Machining

Exoblend® TF sheet is easy to machine with everyday tools. Sawing, drilling, routing, shearing and punching can be done. Always use sharp tools suited for machining plastics.

Thermoforming

Thorough pre-drying of **Exoblend® TF** sheets is essential for all thermoforming techniques where the sheet temperature will rise above 160°C. The recommended procedure is to use an air circulating oven set at 110°C for 4 to 24 hours, depending on sheet thickness.

Exoblend® TF sheet can be vacuum-formed at temperatures of 180 – 190°C. Use temperature controlled (95°C) aluminium or steel moulds. A good release from the mould can be obtained by providing a draft angle of 4 to 6°.

Assembling

Parts made of **Exoblend® TF** can be assembled with other plastics, metals and other materials by means of glueing, welding and several mechanical fastening techniques.

Painting and printing

Exoblend® TF sheets can be painted or printed with several standard techniques. No preliminary surface treatment is necessary, except for cleaning. To avoid compromising the impact strength of **Exoblend® TF** sheets, paints must be suitable for use on polycarbonate. Products can be obtained from several manufactures of inks and paints. Their instructions must be carefully followed.

Chemical resistance

Exoblend® TF sheets have good resistance to highly concentrated mineral acids, many organic acids, oxidising and reducing agents, mineral and animal greases and oil, neutral and acid salt solutions, saturated aliphatic and cycloaliphatic hydrocarbons and alcohols (except methyl alcohol). They are partially soluble in aromatic hydrocarbons and soluble in many halogenated hydrocarbons (methylene chloride and ethylene dichloride are good solvents). Strong alkaline substances such as ammonia and amines decompose it. **Exoblend® TF** sheets will resist most detergent-based household cleaners.