



**HARWAL  
POLYMER**



***THERMOPLASTIC  
ELASTOMER (TPE)***

# ABOUT US

Interplast was established in 1981 to manufacture PVC compounds and over the years has developed an extensive range for different applications such as pipe fittings, cable insulation, sheathing, containers, rigid and flexible profiles as well as clear tubing.

In 1983, Interplast diversified into converting compounds into finished products with the introduction of DECODUCT Electrical Cable Management Systems. Starting with uPVC Conduits, Trunking and Fittings, Interplast has since added many new products to its electrical range. Major additions were Underground Cable Protection Systems and a range of wiring devices marketed under the trade names of INTERGARD and EDISON respectively and a full range of metal trunking and cable trays complete with accessories in co-operation with its sister company TSSC.

The company further expanded its operations to manufacture flexible packaging and thermoformed products for the food industry. These products are marketed under the trade names DECOPACK and DECOFORM. Under the DECOPACK brand, the company developed a range of unique products that included plastic and paper luxury shopping bags and multi-layer films for various applications. Another significant development in recent years has been in the area of home improvement products. Interplast manufactures a range of PVC storage sheds. Window profiles, door panels, PVC siding as well as fencing systems which are sold throughout the world.

The Building Materials Division of Interplast is offering a new range of Aluminium Composite Panel, ALUPEX A2 Non-Combustible panels, a unique and versatile cladding material used in enhancing new trends of modern architecture.

INTERPLAST's state-of-the-art manufacturing facility in DIP (Dubai Investment Park) can extrude over 33,000 MT of UPVC resin and over 2,000 MT of injection products per annum, making it one of the largest manufacturing facilities in the region.



# THERMOPLASTIC ELASTOMER (TPE)

Thermoplastic elastomers (TPE), sometimes referred to as thermoplastic rubbers, are a class of copolymers or a physical mix of polymers (usually a plastic and a rubber) which consist of materials with both thermoplastic and elastomeric properties.

We Offer Thermoplastic Elastomer SEBS (TPEs), TPO, these manufactured from quality raw material that is procured from very reliable resources.

Styrene-ethylene-butylene-styrene (SEBS) is actually a type of thermoplastic elastomer (TPE) along with styrene addition at both ends. Green Peacefulness lists SEBS as an appropriate alternative to PVC in playthings. Polyolefin materials such as Polyethylene (PE) as well as Polypropylene(PP) would be the most common foundations for SEBS, which do not require plasticizers (like phthalates) or stabilizers (like lead) with regard to flexibility and stability respectively.

Styrene-ethylene-butylene-styrene (SEBS) is the product of hydrogenated SBS ("hydrogenation" means molecular hydrogen is introduced into unsaturated molecules in the special reaction conditions, making the molecular structure become saturated). SEBS is with a saturated molecular structure, and its anti-aging, yellowing resistance, heat resistance, corrosion resistance is better than SBS

## Both TPE and TPO belong to the Family of Thermoplastic Elastomers.

- TPE is the abbreviation of "Thermoplastic Elastomers".
- TPO is the abbreviation of "Thermoplastic Olefine"
- TPEs are modified from SEBS base material, while TPO are usually modified from blend PE, PP.



# ADVANTAGE OF **TPE** AGAINST **PVC**

- TPE can be used as impact modifier in all polyolefin applications to improve the strength of the product.
- Good color hold
- Excellent elongation
- Phthalate free plasticizer
- Chlorine free
- Low specific gravity
- Excellent weathering resistance



# TECHNICAL DATA SHEET

## TPE: EXTRUSION GRADE

Grade	Hardness (Shore A)	S.G	T.S. (MPa)	Extension elongation (%)	MFI (g/10min) (230°C/5kg)
TPE 410 HM 50	50 ± 2	0.95 ± 0.03	5 ± 2	>500	0.40 ± 0.1
TPE 410HM	60 ± 2	0.95 ± 0.03	8 ± 2	>600	2.0 ± 0.5
TPE 310 HI	72 ± 2	0.95 ± 0.03	11 ± 2	>800	10 ± 3
TPE 310	74 ± 2	0.95 ± 0.03	10 ± 2	>600	11 ± 3
TPE 610	80 ± 2	1.10 ± 0.03	10 ± 2	>600	7 ± 3
TPE 310 M3	85 ± 2	1.10 ± 0.03	11 ± 2	>500	15 ± 3
TPE 310 M2	92 ± 2	1.08 ± 0.03	12 ± 2	>600	30 ± 3

## TPO: INJECTION GRADE

Grade	Hardness (Shore A)	S.G	T.S. (MPa)	Elongation (%)	MFI (g/10min) (230°C/5kg)
TPE 410 HM50(I)	50 ± 2	0.96 ± 0.03	5 ± 2	>500	0.40 ± 0.1
TPE 410 HM(I)	61 ± 2	0.96 ± 0.03	8 ± 2	>600	2.0 ± 0.5
TPE 220	71 ± 2	0.92 ± 0.03	10 ± 2	>900	52 ± 3
TPE 120	80 ± 2	0.93 ± 0.03	7 ± 2	>1000	34 ± 3
TPE 100	89 ± 2	0.93 ± 0.03	9 ± 2	>700	24 ± 3





# Features

- Non-oil leakage
- Excellent surface appearance
- 100% recyclable
- Environmentally friendly
- Wear resisting
- Non-toxic

# Precautions

- Drying is not required under normal circumstances , such as after prolonged storage to achieve best results use on dry 2 hours at 70°C
- Please set the production temperature of machine strictly according to the suggestion that we have given.

# TPE PROCESSING

Processed like any other thermoplastic material by Injection moulding, Extrusion moulding, Blow moulding.

Typical Processing temperature range is as follows:

**Preheating:** 2 hour for 70°C

**Injection Moulding:** 175°-185°-195°-210°C

**Extrusion:** 165°-175°-195°-215°C

● Thermoplastics  
▲ Elastomers



# APPLICATIONS

MARKETS	PRODUCTS
<b>Automotive</b>	Weather seals, shock dust boots, bumpers, exterior & interior parts, exterior & interior trims, instrument panels, air ducts, pipe grommets, glass encapsulation, drive belts, high/low pressure pipes, mats for motor scooters, O-rings.
<b>Construction</b>	Extruded seals for doors and windows, simple or co-molded hydraulic seals, glazing seals, pipe seals.
<b>Industrial</b>	Anti-vibration mounts, inlet pipes and exhaust manifolds, seals, drum suspension bushes, shock absorbers, roof membranes.
<b>Consumer</b>	Magnetic seals for refrigerators, power tools handles, remote control covers, mobile phone covers, push-button panels, shock absorbing protections for vacuum cleaners.
<b>Medical</b>	Breathing tubes, syringe seals 7 tips, ventilation masks and bags, seals, valves, catheters.
<b>Electronics</b>	Sheaths for condensers, plugs and loose sockets, specialty cables, mobile phone components.
<b>Footwear &amp; Sporting Goods</b>	Items for diving (flippers, snorkels, masks) and skiing (ski pole handles, ski boots), sports goods, shoe soles.





# ***Thermoplastic Elastomer (TPE)***



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