

KUMHO STE

(Styrenic Thermoplastic Elastomer Compound)

What is STE ?

- STE is the compounded material based on styrenic block copolymer (SBS or SEBS) and thermoplastic resin. STE is available for applications requiring rubber-like characteristics. Versatile formulations allow processing either by injection molding or extrusion.

Characteristics

- STE is available in a broad range of hardness. This material is ideal for applications requiring flexibility over a wide temperature range, excellent colorability, processing capability and durability.

Primary features and benefits include :

- Flexibility over a wide temperature range
- Low Shore-A hardness capability
- Superior processibility for extrusion and injection
- Abrasion resistance and durability
- Weatherability
- Odorless
- Easily colorable

End-Use Application

- STE can be applied in various fields such as automotive parts, shoes material, appliance parts and commodities by injection molding or extrusion
- Automotive parts
Mud guard, Fender liner, Mat, Gear knob, Assist grip, Steering wheel cover, Lip bumper
- Appliance
Insulator, Tray, Gasket
- Shoes material
Outsole, Heel counter, Health slipper
- Commodities
Toys, Hose & Tube, Sports goods
- Alternatives to flexible-PVC

Packages

- 25kg / bag
- 500kg / jumbo bag

Appearance

- Pellet



Physical and Mechanical Properties

STE	Unit	Test Method	STE 2545	STE 2070	STE 1092	STE 2035	STE 2050	STE 2170
Hardness	Shore-A,D	ASTM D2240	45A	68A	92A	49D	50D	70D
Density	g/cm ³	ASTM D0792	1.0	1.1	1.0	0.9	0.9	0.9
Tensile Strength	kg/cm ²	ASTM D412	35	30	100	150	100	200
Elongation	%	ASTM D412	300	400	300	400	300	300
Melt Flow Index	g/10min. (190°C,5kg)	ASTM D1238	16	20	10	20	20	20
Melt temperature	°C	-	160-190	160-190	160-190	160-190	160-190	160-190
Mold temperature	°C	-	30-60	30-60	30-60	30-60	30-60	30-60

STE-H	Unit	Test Method	STE-H 2000	STE-H 2025	STE-H 2035	STE-H 2045	STE-H 2055	STE-H 2065	STE-H 2075
Hardness	Shore-A,D	ASTM D2240	0A	25A	35A	45A	55A	65A	75A
Density	g/cm ³	ASTM D0792	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Tensile Strength	kg/cm ²	ASTM D412	20	35	45	70	80	100	130
Elongation	%	ASTM D412	1000	550	650	790	750	700	650
Melt Flow Index	g/10min. (190°C,5kg)	ASTM D1238	10	10	15	20	25	25	30
Melt temperature	°C	-	160-190	160-190	160-190	170-200	170-200	170-200	170-200
Mold temperature	°C	-	30-60	30-60	30-60	30-60	30-60	30-60	30-60

* STE : SBS Compound, STEH : SEBS Compound

* The above data are typical value, therefore may be slightly different according to measuring condition.



Extrusion Temperature Profile

STE	Feed (°C)	Zone-1 (°C)	Zone-2 (°C)	Zone-3 (°C)	Head (°C)	Die (°C)
45 – 55A	150	170	180	180	175	175
55 – 65A	155	175	185	185	180	180
65 – 75A	160	180	190	190	180	180
75 – 90A	170	185	190	190	185	185
90A – 70D	175	185	195	195	190	190

STE-H	Feed (°C)	Zone-1 (°C)	Zone-2 (°C)	Zone-3 (°C)	Head (°C)	Die (°C)
00 – 40A	135	150	160	170	170	170
40 – 60A	150	170	185	185	190	190
60 – 80A	160	180	185	185	190	190
80 – 90A	170	185	190	195	200	200
45D<	180	190	200	200	205	205

Injection Molding Parameter

STE	Nozzle (°C)	Front (°C)	Center (°C)	Rear (°C)
45 – 55A	175	170	165	160
55 – 65A	175	170	165	160
65 – 75A	180	175	170	165
75 – 90A	180	175	170	165
90A – 70D	185	180	175	170

STE-H	Nozzle (°C)	Front (°C)	Center (°C)	Rear (°C)
00 – 40A	150	170	170	170
40 – 60A	150	180	180	180
60 – 80A	160	190	190	190
80 – 90A	170	190	195	195
45D<	170	190	200	200

