

# ESR320NN

## Description

ESR320NN is self extinguishing product. It are formed by spherical polystyrene that contain a flame retardant chemical and a pentane as a blowing agent.

## Key Features

Pre-expansion Density, Compression Strength, Curve  
Destruction Weight, Imflammability

## Application

Building Insulation, Sandwich Panel, Civil Engineering &  
Construction Materials

Properties	Condition	Method	Unit	ESR320NN
<b>Properties of Beads</b>				
Bead size range		ASTM D1921	mm	0.35 ~ 0.71
Expandability		LSY WS RD843	g/l	16 ~ 32
Content of blowing agent		LSY QS RD002	wt %	5.8 ~ 7.3
<b>Properties of Molded Foam (Physical)</b>				
Water Absorption	15 g/L	KS M 3808	g/100cm <sup>2</sup>	0.95
Water Absorption	20 g/L	KS M 3808	g/100cm <sup>2</sup>	0.75
Water Absorption	25 g/L	KS M 3808	g/100cm <sup>2</sup>	0.60
Water Absorption	30 g/L	KS M 3808	g/100cm <sup>2</sup>	0.60
Thermal Conductivity	15 g/L	KS M 3808	W/mK	0.041
Thermal Conductivity	20 g/L	KS M 3808	W/mK	0.038
Thermal Conductivity	25 g/L	KS M 3808	W/mK	0.035
Thermal Conductivity	30 g/L	KS M 3808	W/mK	0.034
<b>Properties of Molded Foam (Mechanical)</b>				
Compressive Strength	15 g/L	KS M 3808	N/cm <sup>2</sup>	9
Compressive Strength	20 g/L	KS M 3808	N/cm <sup>2</sup>	13
Compressive Strength	25 g/L	KS M 3808	N/cm <sup>2</sup>	18
Compressive Strength	30 g/L	KS M 3808	N/cm <sup>2</sup>	22
Flexural Strength	15 g/L	KS M 3808	N	25
Flexural Strength	20 g/L	KS M 3808	N	29
Flexural Strength	25 g/L	KS M 3808	N	36
Flexural Strength	30 g/L	KS M 3808	N	38
<b>Properties of Molded Foam (Thermal)</b>				
Flammability	15 g/L	KS M 3808	sec/mm	0.8 / 5
Flammability	20 g/L	KS M 3808	sec/mm	0.9 / 6
Flammability	25 g/L	KS M 3808	sec/mm	1.1 / 6
Flammability	30 g/L	KS M 3808	sec/mm	1.2 / 7
Flammability		UL Standard		UL94 (HF-1), UL 723

## Note

Typical values are only for material selection purpose and variation within tolerances.

Values given should not be interpreted as specification and not be used for part or tool design.

Typical values listed represent is according to LG Standard, Korea Standard (KS M 3808) only for reference.

## 1. PACKAGING

The product is supplied in Bulk bag with a net weight 800kg.

The inside film is formed by co-extruded film with polyethylene and nylon that prevents the leakage of the blowing agent and absorption of moisture outside and build up static electricity.

## 2. TRANSPORTATION

The product is classified as dangerous material to transport to the UN2211.

It must be always protected from the effects of weather. So container type is open top

## 3. STORAGE

The product must be to store in original sealed bulk bag, a well ventilated room below 20°C.

The product from partially emptied or damaged packages must be processed immediately.

## 4. HEALTH, RISK OF FIRE

During work with EPS, all have to read MSDS carefully.

EPS are flammable materials. It can only be handled in well ventilated areas with sufficient relative humidity(>50%), where all the metal part are grounded.

Smoking, welding, drilling, grinding and using naked flame is prohibited in areas where EPS is handled.