

# ESR240NN

## Description

ESR240NN 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                 | ESR240NN               |
|-----------------------------------------------|-----------|--------------|----------------------|------------------------|
| <b>Properties of Beads</b>                    |           |              |                      |                        |
| Bead size range                               |           | ASTM D1921   | mm                   | 0.59 ~ 1.00            |
| Expandability                                 |           | LSY WS RD843 | g/l                  | 15 ~ 25                |
| 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> | 0.75                   |
| Water Absorption                              | 20 g/L    | KS M 3808    | g/100cm <sup>2</sup> | 0.72                   |
| Water Absorption                              | 25 g/L    | KS M 3808    | g/100cm <sup>2</sup> | 0.45                   |
| Water Absorption                              | 30 g/L    | KS M 3808    | g/100cm <sup>2</sup> | 0.42                   |
| Thermal Conductivity                          | 15 g/L    | KS M 3808    | W/mK                 | 0.040                  |
| Thermal Conductivity                          | 20 g/L    | KS M 3808    | W/mK                 | 0.039                  |
| Thermal Conductivity                          | 25 g/L    | KS M 3808    | W/mK                 | 0.036                  |
| 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>    | 14                     |
| 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>    | 23                     |
| Flexural Strength                             | 15 g/L    | KS M 3808    | N                    | 34                     |
| Flexural Strength                             | 20 g/L    | KS M 3808    | N                    | 35                     |
| Flexural Strength                             | 25 g/L    | KS M 3808    | N                    | 37                     |
| Flexural Strength                             | 30 g/L    | KS M 3808    | N                    | 40                     |
| <b>Properties of Molded Foam (Thermal)</b>    |           |              |                      |                        |
| Flammability                                  | 15 g/L    | KS M 3808    | sec/mm               | 0.9 / 7                |
| Flammability                                  | 20 g/L    | KS M 3808    | sec/mm               | 1.0 / 7                |
| 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),<br>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.