

## Technical Data Sheet – UV Resistant Insulation for Copper Tubes

This technical data sheet provides the essential properties and performance indicators of UV-resistant insulation material used in copper piping systems for air conditioning and refrigeration applications. The insulation material is designed to ensure optimal thermal efficiency and durability under outdoor exposure conditions.

### 1. Material Composition

The insulation consists of closed-cell polyethylene (PE) foam with an average density of 25–35 kg/m<sup>3</sup>. An external layer made of UV-resistant polymer (typically LDPE-based) is applied to provide long-term protection against solar radiation and environmental degradation.

### 2. Thermal Properties

| Property                           | Value                                         | Standard / Notes           |
|------------------------------------|-----------------------------------------------|----------------------------|
| Thermal Conductivity ( $\lambda$ ) | 0.036 W/m-K (at 0°C)<br>0.040 W/m-K (at 40°C) | EN ISO 8497                |
| Service Temperature Range          | -80°C to +95°C                                | Continuous operation range |
| Foam Density                       | 25–35 kg/m <sup>3</sup>                       | Typical range              |

### 3. Moisture Resistance

| Property                             | Value                      | Standard / Notes     |
|--------------------------------------|----------------------------|----------------------|
| Water Vapor Diffusion Resistance (n) | $\geq 5000$ (up to 10000)  | EN 13469             |
| Water Absorption                     | Max. 0.1 kg/m <sup>2</sup> | EN 13472 (Class W05) |

### 4. Fire Classification

| Standard   | Classification | Notes                              |
|------------|----------------|------------------------------------|
| EN 13501-1 | BL-s1, d0      | Low smoke production, non-dripping |
| DIN 4102   | Class B1       | Self-extinguishing                 |

### 5. UV and Weather Resistance

The outer protective layer includes additives that prevent degradation due to ultraviolet radiation, moisture, and ozone. This ensures reliable performance in rooftop and exterior wall installations where prolonged sun exposure is expected.

### 6. Dimensions and Compatibility

The insulation is typically available in thicknesses of 6 mm, 9 mm, 13 mm, and 19 mm. It is compatible with copper pipes ranging from 1/4" to 7/8" in diameter and is offered in spiral or linear configurations for ease of installation.

### 7. Certifications and Compliance

- Complies with REACH and RoHS regulations
- CE marked in accordance with European standards
- Low VOC emissions – suitable for indoor air quality
- Resistant to chemicals, ozone, and weathering

