



## Declaration of Conformity



**Product name:** WhiteShield and TwinShield

**Material:** copper pipe EN 12735-1

**Insulation:** closed cells expanded polyethylene + low density polyethylene film

**Product Codes of the insulation :** polyolefin products

**Chemical family:** polyolefin thermoplastics

**Manufacturer :** PDM EU Srl





### Composition information on ingredients (Insulation)

|                             |               |            |
|-----------------------------|---------------|------------|
| Polyethylene                | CAS 9002-88-4 | 85% - 100% |
| Other proprietary additives | N/A           | 0 - 15%    |

| HAZARDOUS INGREDIENT |               | EXPOSURE LIMITS<br>Wt % |
|----------------------|---------------|-------------------------|
| Isobutane            | CAS 0075-28-5 | 800 ppm TWA (ACGIH)     |

### Insulation

Product is made according to EN 14313:2009+A1:2013 , type I (tubular), grade I (insulation material use for use on typical commercial system non-cross-linked).

### Low-density polyethylene foam:

- closed cells foam, CFC and HCFC gas free

### Reaction to fire:

- Class BI-s1 , d0

### Water absorption:

- WS 005





**Maximum service temperature:**

- ST (+) 110

**Wall thickness:**

- from 7 to 10mm

**Water vapor diffusion resistance:** according to 14313:2009

- $\rho \geq 15.000$

**Surface burning characteristics:** according Class BL –s1 , d0 certified insulation

- flame and Spread Index less than 25 and
- Smoke Development Index less than 50.

**Thermal Conductivity:**

- 0,038 W/mk (at 40°)





### Copper:

copper according **EN 12735-1** suitable for gases R410, R407, R32 and R134a.

| Dimensional Characteristics |       |         |                |       |         |              | Mechanical Characteristics |              |              |              |                 |           |
|-----------------------------|-------|---------|----------------|-------|---------|--------------|----------------------------|--------------|--------------|--------------|-----------------|-----------|
| outside diameter            |       |         | wall thickness |       |         |              | Yielding test              |              | Tensile test |              | Elongation Test | Expansion |
| min                         | max   | average | min            | max   | average | eccentricity | Load                       | Stress       | Load         | Stress       | A               | Test      |
| mm                          | mm    | mm      | mm             | mm    | mm      | %            | Fp<br>0.2 N                | Rp 0.2 N/mm2 | Fp 0.2<br>N  | Rm 0.2 N/mm2 | %               | %         |
| 6.38                        | 6.39  | 6.37    | 0.732          | 0.799 | 0.76    | 3            |                            | 67.28        |              | 248.88       | 57.2            | OK        |
| 9.53                        | 9.57  | 9.55    | 0.735          | 0.789 | 0.762   | 4            |                            | 66.51        |              | 247.22       | 57.4            | OK        |
| 12.67                       | 12.79 | 12.73   | 0.74           | 0.79  | 0.765   | 3            |                            | 66.31        |              | 246.21       | 57.3            | OK        |
| 15.8                        | 16.01 | 15.91   | 0.75           | 0.789 | 0.769   | 3            |                            | 66.38        |              | 247.71       | 57.1            | OK        |
| 15.8                        | 16.01 | 15.91   | 0.891          | 0.989 | 0.940   | 3            |                            | 66.31        |              | 246.21       | 57.3            | OK        |
| 19.05                       | 19.09 | 19.07   | 0.891          | 0.989 | 0.940   | 3            |                            | 66.38        |              | 247.71       | 57.1            | OK        |

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