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SPECIFICATION

For

Dual wall heat shrinkable, semi-rigid
Polyolefin tubing (Shrinkage 3:1) used for 600V, 110°C.

(Type designation : GSHS-3625WS)

PREPARED BY


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APPROVED BY


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1. Scope

This specification covers the requirements for dual wall heat shrinkable, semi-rigid Polyolefin tubing (Shrinkage 3:1) used for 600V, 110°C.

(Type designation : GSHS-3625WS)

2. Reference Standard

The following documents form a part of this specification to the extent specified herein.

UL224 : Extruded insulating tubing

MIL-DTL-23053/4D : Insulation sleeving, Electrical, Heat Shrinkable, Polyolefin, Dual wall, semi-rigid, Outer wall Crosslinked

3. Standard

3-1. Outer jacket

The insulation shall be a irradiated cross-linked polyolefin complying with MIL, UL224 specification and free from bubbles, pinholes, cracks, inclusion of impurities. Expanded inside diameter and recovered thickness at any point of insulation shall be in the attached table 1. The standard color of insulation is Black.

3-2. Inner adhesive

The inner adhesive shall be coated to inner surface of outer jacket

4. Applied Recipe

The used material of insulation is in the attached table 2.

5. Performance

The following item shall be carried out in accordance with MIL, UL224 specification.

| Test Item | | Characteristics | Test condition |
|--|---------------------|-------------------------------|----------------|
| Unaged | Tensile strength | Min. 1.06 kgf/mm ² | ASTM D638 |
| | Elongation | Min. 200% | |
| Dielectric Strength | | Min. 19.7kv/mm | ASTM D2671 |
| Copper Corrosion | | No corrosion | 121°C/16 hours |
| Minimum secant modulus(2% strain) | | 17.59 kgf/mm ² | ASTM D882 |
| Restricted shrinkage | | No crack | 175°C/ 30min |
| Fluid resistance (Refer to below test fluid) | Tensile strength | Min. 0.71 kgf/mm ² | 24°C/24 hours |
| | Dielectric Strength | Min. 15.8kv/mm | 24°C/24 hours |

| | | |
|--------------------|---------------------------------|--------------------------|
| Fungus resistance | No growth | ASTM G21 |
| Water absorption | Max. 0.5% | ASTM D570, 23°C/24 hours |
| Volume resistivity | Min. $10^{14} \Omega\text{-cm}$ | ASTM D876 |
| Heat shock | No cracks, flowing or dripping | 250°C/4hrs |

※ Test fluids

| Fluid | Conforming to |
|--------------------------------|---------------|
| Hydraulic fluid petroleum base | MIL-H-5606 |
| JP-8 | MIL-T-5624 |
| Lubricating oil | MIL-L-7808 |
| Lubricating oil | MIL-L-23699 |
| 5 percent NaCl | A-A-694 |
| Deicing fluid | MIL-A-8243 |

| 6 대 금지 물질 (Restricted Hazardous Substances) | 특성치(Characteristics) | Test Method |
|--|----------------------|---|
| Pb | Max. 100 | EPA 3050B or EN1122, ICP-AES |
| Cd | Max. 5 | EPA 3050B, ICP-AES |
| Hg | N.D | EPA 3052, ICP-AES |
| Cr6+ | | EPA 3060A |
| PBBs | | With reference to 83/264/EEC and 2003/11/EEC. GC/MS |
| PBDEs | | |

N.D : Not detected

Storage condition

Keep cool. Don't expose tubes to the direct rays of sun to prevent natural shrinkage and don't keep this package over 8 hours at temperature exceeding 40°C(104F)

Attached Table 1.

| Standard Size (INCH size) | 팽창후(Expanded) | | 수축후(Recovered) | | Standard Length [m] |
|------------------------------|-------------------------|---------------------------|------------------------------|---|------------------------|
| | Inside Diameter [mm] | Nominal Thickness [mm] | Max. Inside Diameter [mm] | Min. Total Thick. At any point [mm] | |
| 0.40T X 1/8 | 3.5 ± 0.3 | 0.40 | 0.6 | 0.81 | 1.2 |
| 0.45T X 3/16 | 5.2 ± 0.4 | 0.45 | 1.6 | 0.94 | 1.2 |
| 0.50T X 1/4 | 6.8 ± 0.4 | 0.50 | 2.1 | 1.01 | 1.2 |
| 0.50T X 3/8 | 10.0 ± 0.5 | 0.50 | 3.5 | 1.09 | 1.2 |
| 0.60T X 1/2 | 13.2 ± 0.5 | 0.60 | 5.0 | 1.22 | 1.2 |
| 0.70T X 3/4 | 20.1 ± 1.0 | 0.70 | 8.0 | 1.47 | 1.2 |
| 0.70T X 1 | 26.4 ± 1.0 | 0.70 | 10.2 | 1.73 | 1.2 |

