Thermax Seamless and NEW Seamless-T PTFE Tape-Wrapped Products

Tens of millions of feet of Thermax’s Seamless PTFE Tape-wrapped wire and cable products have been installed in aircraft worldwide, making them the industry standard for the commercial and military aerospace industries. The superior performance characteristics of the proven Seamless and new Seamless-T products are the underlying reasons for this extraordinary industry acceptance.

Thermax’s Seamless products meet all requirements for AS22759/80/-92 and NEMA WC27500 (MIL-DTL-27500) applications.

Thermax has again raised the bar with its new Seamless-T product line which meets the requirements of AS22759/180/-192.

Thermax Seamless-N has been designed to meet the requirements of EN2267-009 and -010 applications.

Key Advantages of Seamless Products

Thermax Seamless Wrap PTFE Tape is an insulation and cable jacket technology that offers all the advantages of a tape wrap, with the smooth appearance and characteristics of an extrusion.

When Seamless Wrap PTFE Tape is used as an outer jacket, the smooth outer surface of the tape allows for the clear, crisp laser marking of the cable for labelling purposes.

Advantages include:

- Weight and space savings over extruded insulation
- Exceptional resistance to scrape abrasion
- Exceptional laser markability
- Exceptional hydrolytic resistance
- Exceptional electrical arc scrape abrasion track resistance
- Exceptional layer-to-layer adhesion
- Exceptional low outgassing characteristics

Given the key advantages listed above, Thermax Seamless and Seamless-T ensure superior performance in WC27500 cable applications.
Thermax Seamless, Seamless-T, and Seamless-N Products Outperform Conventional Seamed Products

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*Product not manufactured by Thermax.

Scrape Abrasion

- **23°C**
  - Seamless/92: 3044 cycles
  - Seamless-T/192: 2066 cycles
  - Requirement: 2000 Cycles
- **150°C**
  - Seamless/92: 965 cycles
  - Seamless-T/192: 344 cycles
  - Requirement: 350 cycles

Marking Contrast

- **Initial**
  - Seamless/92: 61%
  - Seamless-T/192: 67%
  - Requirement: 55%
- **168 hours thermal aging**
  - Seamless/92: 37%
  - Seamless-T/192: 52%
  - Requirement: 40%

Wet Arc Propagation Resistance

- Seamless/92: 98.7%
  - Requirement: 85.3%
- Seamless-T/192: 98.7%
  - Requirement: 93.3%

Product Availability

Seamless, Seamless-T, and Seamless-N PTFE tape-wrapped products are designed for use in commercial and military aerospace applications. They are available in a variety of constructions and colors.

- **AS22759/80-/92 Hook-Up Wires** incorporate either dual-, three-, or four-layer insulation constructions with either tin-, silver-, or nickel-plated copper or copper alloy stranded conductors.
- **AS22759/180-/192 Hook-up Wires** incorporate either dual-, three-, or four-layer insulation constructions with either tin-, silver-, or nickel-plated copper or copper alloy stranded conductors.
- **NEMA WC27500 Cables** incorporate from one to fifteen AS22759, MIL-DTL-25038 or MIL-DTL-81381 wires, plus a single or double shield, and a single or double jacket.
- **EN2267 Wire and Cable** -009 and -010 (laser markable) incorporate either nickel-plated copper or copper alloy conductors.

Custom designs are available by request.

Seamless-N Key Properties

- **Scrape Abrasion**
  - 21°C: 603 cycles
  - Requirement: 100 cycles
  - Requirement: 100 cycles
- **Marking Contrast**
  - Before Aging: 63%
  - After Aging: 46%
  - Requirement: 50%
  - Requirement: 40%

Note: These standard specifications have been met with the use of precise test equipment and procedures developed by Thermax. This product bulletin does not constitute a warranty that the product will meet the above specifications while used in specific applications or attached to specific test equipment.