



Cold Supply Chain: Gasketing and Sealing Materials

A recognized global leader in material solutions, Rogers Corporation offers a diverse portfolio of products that deliver excellent, reliable performance at extreme temperatures with no compromise of mechanical properties.

Temperature Level / Ranges

- Refrigerated (2°C to 8°C):
PORON® 4701 Series
- Freezer (-25°C to -10°C):
BISCO® BF-1000, BISCO® BF-2000,
BISCO® HT Series, BISCO® MF1®
- Ultra Low Freezer (-70°C to -90°C):
ARLON® GP, ARLON® HS/LT grades
- Vapor-Phase Liquid Nitrogen (-135°C to 196°C)
- Liquid-Phase Liquid Nitrogen (-195°C)



Ultra-Low Temperature Gaskets and Sealing

The ARLON® silicone family contains several grades of high-performing, durable materials that are resistant to temperature extremes, especially the ultra low temperature ranges often found in cold supply chain applications.

Low temperature embrittlement is a commonly-measured property which indicates the temperature at which a rubber material can no longer maintain its elastomeric properties and is susceptible to cracking.

A typical silicone elastomer material reaches low temperature embrittlement around -55°C. Several ARLON materials, however, function at temperatures well below this. An ARLON GP grade solid silicone material, for example, can reach temperatures as low as -62°C.

An ARLON HS/LT grade solid silicone offers even lower temperature usage, reaching a low temperature of embrittlement around -90°C.

GP (Specification Grade, AA59588 Class 2A/2B GR25-80)

- Low temperature brittle point below -62°C

LT (Low Temperature Grade, AA59588 Class 1A/1B GR40-80)

- Low temperature brittle point below -75°C

HS/LT (High Strength/Low Temperature grade, AA59588 Class 3A GR30-60)

- Low temperature brittle point below -90°C

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ARLON® GP (Specification Grade, AA59588 Class 2A/2B GR25-80)

Durometer: 25 to 80 Shore A
Thickness: 0.010 to 0.500"

ARLON® LT (Low Temperature Grade, AA59588 Class 1A/1B GR40-80)

Durometer: 40 to 80 Shore A
Thickness: 0.010 to 0.500"

ARLON® HS/LT (High Strength/Low Temperature grade, AA59588 Class 3A GR30-60)

Durometer: 30 to 60 Shore A
Thickness: 0.010 to 0.500"

BISCO® BF-1000

CFD (at 25%): 1-5 PSI
Thickness: 0.063-1.00"

BISCO® BF-2000

CFD (at 25%): <2.5 PSI
Thickness: 0.125 – 0.500"

BISCO® HT-800

CFD (at 25%): 6-14 PSI
Thickness: 0.031 – 0.500"

BISCO® HT-820

CFD (at 25%): 12-20 PSI
Thickness: 0.031 – 0.250"

BISCO® HT-840

CFD (at 25%): 16 – 28 PSI
Thickness: 0.031 – 0.250"

BISCO® HT-870

CFD (at 25%): 2-7 PSI
Thickness: 0.063" – 0.500"

BISCO® MF1-55

CFD (at 25%): 0.7 PSI
Thickness: 0.250" – 8.00"

Traditional Cold Supply Chain Gaskets and Sealing

Rogers offers a broad range of materials that preserve and protect sensitive product at all temperature levels throughout the cold storage supply chain.

BISCO® silicone foam and PORON® polyurethane materials, available in a wide range of firmness and thickness options, display superior compression set (C-set) retention, ensuring a robust and consistent enclosure.

In addition, BISCO silicone foam and PORON polyurethane materials are environmentally stable, displaying minimal outgassing and fogging. The materials are resistant to many chemicals and solvents, and are tested against a multitude of flammability and sealing standards.

For cold supply chain applications requiring high-performance films and/or pressure-sensitive tapes, Rogers' DeWAL® products provide reliable and thermally-stable solutions.

