Complete Guide to Cohere Gasket Insulation Kits

Introduction

Cohere Gasket Insulation Kits are engineered solutions designed for thermal and electrical insulation in high-temperature and corrosive environments. These kits combine non-asbestos gasket sheets with specialized insulating materials to prevent heat transfer, galvanic corrosion, and flange current leakage in pipelines, boilers, and industrial equipment.

Manufacturing Technology

Key Components

Material	Function	Cohere Style Used
Fiberglass Layer	Thermal insulation (up to 650°C)	2705 (Aramid/Glass Fiber)
PTFE Film	Chemical resistance & dielectric barrier	2704 (Light Blue - CSM)
Stainless Steel Mesh	Structural support & EMI shielding	2715/2717 (Metal-Reinforced)
Ceramic Microspheres	Reduced thermal conductivity	2718 (High-Temp Carbon Fiber)

Production Process

1. Layer Lamination:
    - Fiberglass + PTFE + gasket sheet bonded under heat/pressure.
2. Vulcanization:
    - Cured at 150°C for chemical stability.
3. Die-Cutting:
    - Precision-cut to flange dimensions (±0.2mm tolerance).

Technical Specifications

Property	Test Standard	Performance Range
Thermal Conductivity	ASTM C518	0.05–0.12 W/m·K
Dielectric Strength	ASTM D149	5–15 kV/mm
Max Temperature	ASTM D570	-50°C to 650°C (2718)
Fire Resistance	API 607	30min @ 760°C (2710/2718)

Standard Sizes & Dimensions

Kit Type	Sheet Size (mm)	Thickness (mm)	Bolt Hole Tolerance
Full-Face	1500x3000	1.5–6.0	±0.5mm
Ring-Type	Custom OD/ID	1.0–3.0	±0.3mm
Spiral Wound	50–1000mm OD	3.0–5.0	±0.2mm (metal core)

Applications

Industry	COhere Style	Use Case
Oil & Gas	2710 + PTFE	Insulating flange joints in refineries
Power Plants	2705 + Fiberglass	Steam turbine insulation
Chemical	2704 + Ceramic	Acid-resistant pipe gaskets
Marine	2716 (NSF)	Potable water line insulation

Handling & Storage

Safety Protocols

- PPE Required: Gloves (nitrile), safety glasses (for cutting).
- Ventilation: Avoid dust inhalation during machining.

Storage Guidelines

Condition	Requirement
Temperature	<30°C (no direct sunlight)
Humidity	<60% RH
Stacking	Flat or rolled (diameter >30cm)

Shelf Life

- Unopened Kits: 5 years in original packaging.
- Opened Kits: Use within 6 months (reseal with desiccant).

Troubleshooting

Issue	Root Cause	Solution
Gasket blowout	Insufficient bolt load	Use metal-reinforced (2715/2717)
Insulation failure	Thermal cycling degradation	Upgrade to 2718 (ceramic-enhanced)
Chemical attack	Incompatible media	Switch to PTFE-faced (2704)

Ordering Process

Steps to Order

1. Select Style:
    - Standard Kits: Pre-configured (e.g., 2705 + Fiberglass).
    - Custom Kits: Specify layers (e.g., 2710 + PTFE + SS mesh).
2. Provide Details:
    - Flange dimensions (ID/OD, bolt pattern).
    - Operating conditions (temp/pressure/media).
3. Cutting Method:
    - Laser: For precision (<3mm thickness).
    - Waterjet: For metal-reinforced kits.
4. Lead Time:

- Stock kits: 24–48 hours, Custom: 5–7 days.

Order Channels

- Online: Cohere Configurator
- Email: tech@cohere.com (attach CAD drawings).
- Phone: +1 (800) COH-ERE1 (North America).

Compliance & Certifications

Standard	Scope	Cohere Styles
API 607	Fire-safe insulation	2710, 2718
NSF/ANSI 61	Potable water safety	2708, 2716
ASTM F104	Compression recovery	All
NACE MR0175	Corrosion resistance	2715, 2717

Safety Data & MSDS

- Non-toxic: No asbestos, silica, or heavy metals.
- Disposal: Recycle fiberglass/PTFE components per local regulations.
- Emergency Contact: +1 (800) COH-EMER (24/7).