

# Complete Guide to KAM Profile Gaskets

## Introduction

KAM (Kammprofile) Gaskets are high-performance sealing solutions designed for critical flange connections in industries requiring reliable sealing under extreme pressure, temperature, and corrosive conditions. These gaskets feature a serrated metal core with a soft facing material, combining the strength of metal with the conformability of non-metallic layers.

## Key Benefits

- ✓ High sealing performance (low leakage rates)
- ✓ Excellent thermal & mechanical stability
- ✓ Reusable (in some applications)
- ✓ Resistant to blowout under pressure cycling

## Technical Features & Materials

### Construction & Materials

| Component        | Material Options       | Function                     |
|------------------|------------------------|------------------------------|
| Metal Core       | SS304, SS316, Titanium | Provides structural strength |
| Facing Material  | Graphite, PTFE, CNA    | Ensures tight seal           |
| Inner/Outer Ring | Carbon steel, SS316    | Prevents over-compression    |

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## Performance Specifications

| Property        | Value Range     | Test Standard |
|-----------------|-----------------|---------------|
| Max Temperature | -200°C to 800°C | ASTM F146     |
| Max Pressure    | Up to 300 BAR   | ASME B16.20   |
| Compressibility | 10-20%          | EN 13555      |
| Recovery        | 30-50%          | ASTM F36      |



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## Standards & Certifications

| Standard    | Scope                               | Applicability            |
|-------------|-------------------------------------|--------------------------|
| ASME B16.20 | Metallic gaskets                    | Design & dimensions      |
| EN 1591     | Flange gasket calculations          | Pressure & tightness     |
| API 6A      | Wellhead & Christmas tree equipment | Oil & gas applications   |
| ISO 9001    | Quality management                  | Manufacturing compliance |

## Size Classes & Pressure Ratings

### Standard Sizes (ASME/EN/DIN Flanges)

| Nominal Size (inches) | Inner Diameter (mm) | Outer Diameter (mm) | Thickness (mm) |
|-----------------------|---------------------|---------------------|----------------|
| 2"                    | 52                  | 102                 | 4.5            |
| 6"                    | 154                 | 216                 | 4.5            |
| 12"                   | 309                 | 381                 | 4.5            |

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## Pressure-Temperature Ratings

| Flange Class | PN Rating | Max Pressure (BAR @ 20°C) |
|--------------|-----------|---------------------------|
| PN16         | 16        | 16                        |
| PN40         | 40        | 40                        |
| ASME 300#    | -         | 50                        |
| ASME 600#    | -         | 100                       |

## Color Coding & Identification

| Facing Material               | Color Code | Typical Use            |
|-------------------------------|------------|------------------------|
| Graphite                      | Gray       | High-temperature steam |
| PTFE                          | White      | Chemical resistance    |
| CNA (Compressed Non-Asbestos) | Blue       | General industrial     |
| Rubber (EPDM/NBR)             | Black/Red  | Water/glycol systems   |

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## Industry Applications

| Industry            | Gasket Type        | Key Requirements                   |
|---------------------|--------------------|------------------------------------|
| Oil & Gas           | SS316 + Graphite   | High-pressure, sour gas resistance |
| Power Generation    | SS304 + PTFE       | Steam & thermal cycling resistance |
| Chemical Processing | Titanium + PTFE    | Acid/alkali resistance             |
| Heavy Industries    | Carbon steel + CNA | Mechanical durability              |

## Handling & Storage Guidelines

### Storage

- Temperature: <40°C (to prevent degradation of facing materials)
- Humidity: <60% RH (prevents moisture absorption in graphite)
- Stacking: Store flat to avoid deformation

### Installation

- Flange Preparation: Clean surfaces, remove old gasket residue.
- Alignment: Ensure proper centering (no overhang).
- Bolt Tightening:
  - Follow ASME PCC-1 torque sequence (star pattern).
  - Re-torque after 24hrs of operation.

### Safety

- PPE: Gloves (for handling graphite/PTFE), safety glasses.
- Ventilation: Required when machining PTFE.

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## Troubleshooting Common Issues

| Issue           | Root Cause                | Solution                 |
|-----------------|---------------------------|--------------------------|
| Leakage         | Incorrect facing material | Upgrade to PTFE/graphite |
| Gasket blowout  | Over-compression          | Use thicker gasket       |
| Chemical attack | Incompatible media        | Switch to PTFE-lined     |
| Bolt relaxation | Thermal cycling           | Re-torque after 24hrs    |

## How to Order

### Information Required

#### 1. Flange Details:

- Size (NPS/DN), class (PN/ASME), facing type (RF, FF).

#### 2. Operating Conditions:

- Temperature, pressure, media (e.g., H<sub>2</sub>SO<sub>4</sub>, steam).

#### 3. Material Preference:

- Metal core (SS316, Titanium).
- Facing (Graphite, PTFE, CNA).

### Order Channels

- Online: [www.coheretech.in](http://www.coheretech.in)
- Email: [info@coheretecch.in](mailto:info@coheretecch.in) (attach flange drawings)

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### Lead Times

- Stock Gaskets: 24–48hrs (standard sizes).
- Custom: 1–3 weeks (special materials/dimensions).

### Compliance & Safety Data

- Fire-Safe: API 6FB (for oil & gas applications).
- FDA Compliance: PTFE gaskets for food/pharma.
- MSDS: Available for all materials.

Emergency Contact: +91 96003 00448



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