

Pressure Rating

All pressure rating follow the calculation as to ASME B31.3 Process Piping code and ASME B31.1 Power Piping code.

The working pressure rating at the room temperature is determined by the material of gasket and the allowable temperature range per the materials is listed in Table 2.

Table 2. Temperature range

Part	Material	Temperature °F (°C)
Fitting	SS 316	1000 (537)
	SS 316L	
Gasket	316L	1000 (537)
	Nickel	600 (315)
	Copper	400 (204)

Material

Material	Designation	Specificatoin	
		Bar stock	Forging
Stainless Steel 316	S	ASME SA479 ASTM A479 / A276	ASME SA182 ASTM A182
Stainless Steel 316L	L		
Stainless Steel 316L Single Vacuum Melting	SL		
Stainless Steel 316L Double Vacuum Melting	DL		
Gasket	SS 316L	ASTM SA182 or Equivalent	
	Nickel	ASTM F3 or Equivalent	
	Copper	ASTM B152 or Equivalent	

Cleaning & Packing

Passivation is done in accordance with ASTM A380 and the Ultra-sonic cleaning in clean room (class 100) is implemented with resistivity over 18MΩ D.I water after finishing the passivation for precision cleaning. After Cleaning, the product shall be double packed in the clean room within anti-static polyethylene bags where let high purity nitrogen in.

Surface roughness

Grade	Designation	Roughness, Ra
BA	Nil	10 μin. (0.25μm)

Plating

The internal surface of female-threaded nut are silver plated to reduce the galling and the pull-up torque. In the case of the damage or removal of the silver plating thread galling may be occur and make some damage on the fitting components to prevent proper sealing performance.

Testing

RCR Fittings meet the below helium leakage limitation per the material of gasket.

- Silver plated stainless steel 316L and copper gasket : the maximum leak rate 4×10^{-9} std cm³/s
- Unplated stainless steel 316L : the maximum leak rate 4×10^{-11} std cm³/s

Feature

- The Leak-tight service provided from vacuum to positive pressure application
- Minimized space is needed for installation or removal

