MATERIAL SPECIFICATION AUSTENITIC STAINLESS STEEL 254 SMO

1.0 PURPOSE

1.1 It is the purpose of this material specification to list in concise form of the material requirement for AISI SS 254 SMO stainless steel forgings, mill shapes and Ring Joint Gaskets.

1.2 Product forms covered by this specification are Rolled Ring or Ring forgings for Gaskets.

1.3 This material specification is intended to aid the purchasing department in procuring and the vendor in supplying a material which meets the needs of its intended use, and the quality control department in the inspection and release of incoming material.

2.0 REQUIREMENTS

2.1 The requirements of specification S.E.S. 26-590 shall apply in addition to the following specific requirements.

2.1.1 **Chemical composition**: Chemical composition limits are listed below. An analysis of each heat of steel is made by the manufacturer, preferably from a ladle sample taken at or near the time of pouring. The listed elements shall be reported in weight percent. Reporting of residual elements is not required, but total residuals must not exceed 1%.

ELEMENTS	COMPOSITION RANGE (%)
Carbon (C)	0.02 (max.)
Manganese (Mn)	1.00 (max.)
Silicon (Si)	0.80 (max.)
Sulphur (S)	0.010 (max.)
Phosphorus (P)	0.030 (max.)
Nickel (Ni)	17.5-18.5
Chromium (Cr)	19.5-20.5
Molybdenum (Mo)	6.0-6.5
Nitrogen (N)	0.18-0.22
Copper (Cu)	0.5-1.0

SARA SAE PRIVATE LTD. 7/1-Pritam Road DEHRADUN (Uttarakhand)

2.1.2 **Mechanical Properties:** Mechanical property requirements are listed below. Each heat shall be tested and the listed mechanical properties shall be reported.

MECHANICAL PROPERTIES	RANGE
TENSILE STRENGTH, PSI	94,250 (650 MPa) Min. *
YLELD STRENGTH, PSI	43,500 (300 MPa) Min. *
ELONGATION IN 2" Gage Length	35 % Min. *
REDUCTION IN AREA	50% Min. *
ROCKWELL HARDNESS	90 HRB Max.

* These properties are not required for ring gaskets

2.1.2 **HEAT TREATMENT:** - Heat treatment

PROCESS	ATMOSPHERE/MEDIA	TEMPERATURE	TIME AT TEMPERATURE
Normalizing	Air	2100-2200 °F (1150-1200 °C)	1/2 hour per inch of minimum through Thickness.
Quenching	Water	100 °F (38 °C) at the start of quench	120°F Max. at the completion of the quench

3. DOCUMENTATION REQUIRED:-

3.1 Each shipment shall be accompanied by material certifications for each lot of material, certifications must be positively relatable to the lot of material represented

3.2 Recheck of Chemical properties to be carried out by SARA SAE.

SARA PRIVATE LIMITED 171-Pritam Road DEHRADUN (Uttarakhand) (INDIA)