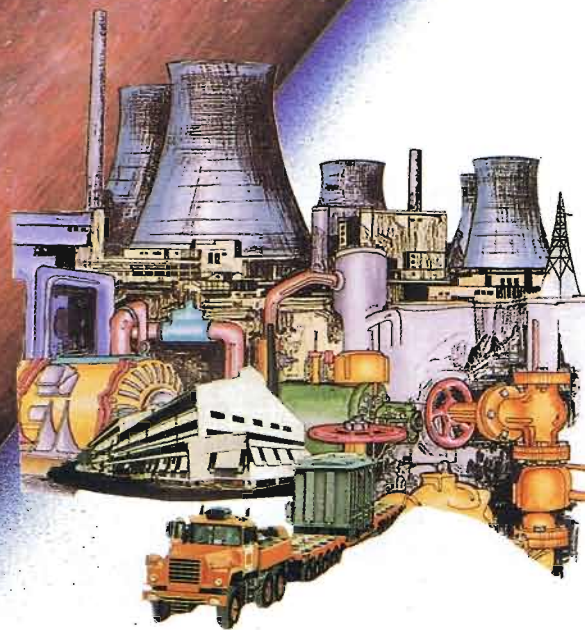


SUPER

WANDITTE

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# SUPER WAUDITE JOINTINGS PVT.LTD.

## SUPER WAUDITE PRESENTS ITS CREDENTIALS :

Super Waudite is a well-known brand of compressed asbestos fibre jointing sheets popular for past 25 years with Indian engineers, users, OEM Companies and gasket cutters.

### QUALITY POLICY

We, at Super Waudite Jointings Pvt. Ltd., are committed for excellence in providing widest range of jointings, insulation sealing & packing products manufactured from product appropriate indigenous & special purpose machinery at the most economical price.

To satisfy needs & expectations of our customers, we provide quality products & solution for their application with the help of establishing quality management system and mechanism to improve continually through team efforts of highly committed & motivated employees.

OUR UNIT IS REGISTERED WITH "TECHNICAL DEVELOPMENT COMMITTEE" (T.D.C.) FOR INDIGENOUS MATERIALS REQUIRED BY PETROCHEMICALS, FERTILIZERS, OIL REFINERIES ETC., AND ALSO REGISTERED WITH (1) N.S.I.C. (2) D.G.S. & D. (3) S.S.I.

## JOINTING PRINCIPLES - TO HELP YOU SELECT :

**WHY USE GASKETS ?** If flange surfaces mated perfectly, there would be no need for gaskets. In practice, flanges always have slight surface irregularities, and a compressible, resilient material- the gasket- is used to compensate for them. This provides an uninterrupted barrier against the medium and compensates for slight movement of the flanges during service.

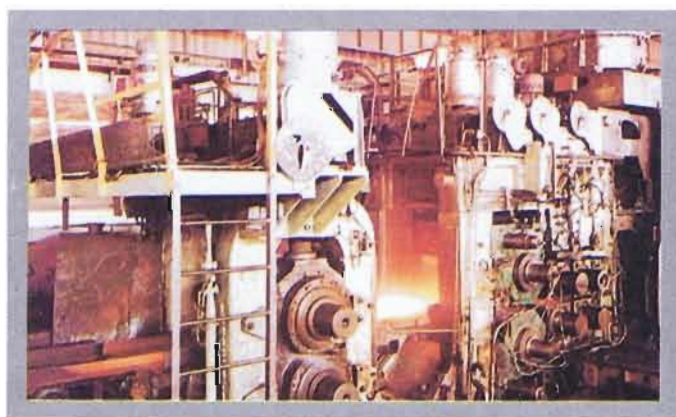
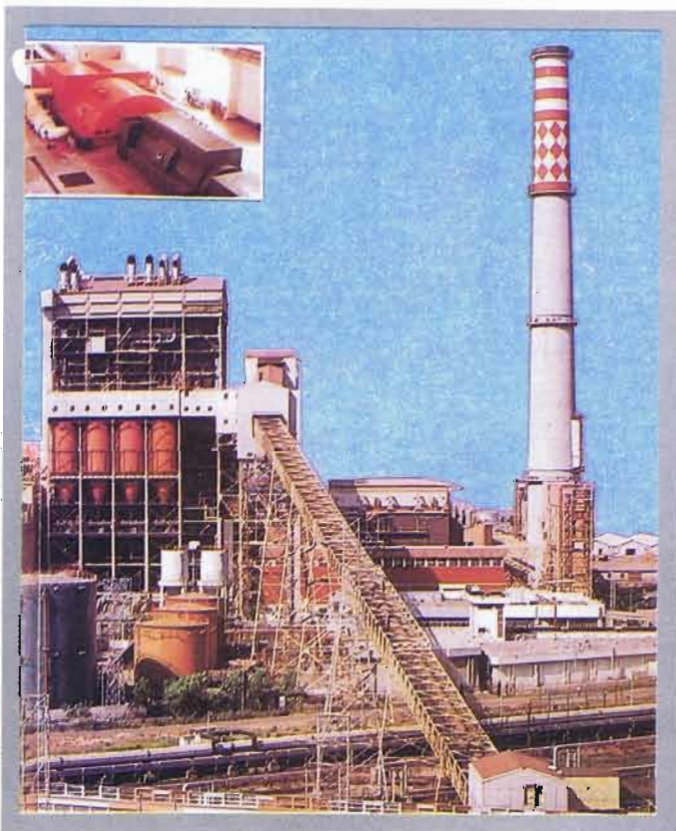
**DESIGNING OF GASKET :** This involves determining of three basic elements, namely - (i) right material, (ii) proper dimension, and (iii) correct surface stress; and the selection of right gasket material depends on three factors namely - (i) medium, (ii) working temperature and (iii) working pressure.

**SURFACE STRESS :** Even at low internal pressures the gasket must be pressed against the flanges with a definite minimum surface stress. And the "deformation stress" depends on the structure and compressibility of the gasket material.

**HYDROSTATIC END THRUST :** In a closed vessel or a closed pipeline, the internal pressure of a medium exerts a thrust on the cover lid. This is called the hydrostatic end thrust, which tends to pull apart the flanges and thereby reduce the "assembly stress" originally applied to the gasket. The assembly stress must therefore compensate for the effect of the hydrostatic end thrust, while still maintaining the "minimum gasket surface stress" needed to seal at the working pressure.

**MAXIMUM SURFACE STRESS :** Too high a gasket surface stress can cause leakage. This is because the gasket loses the resilience needed to maintain its pressure against the flange surfaces. The surface stress on the gasket must never exceed the recommended maximum. For a given material the maximum permissible surface stress depends mainly on the temperature and the thickness. For example, thin materials withstand higher stresses than thick ones, cold conditions permit higher stresses than hot.

**THE RIGHT GASKET THICKNESS :** Compressed asbestos materials have a slight porosity, so gaskets should be as thin as possible. However, the minimum gasket thickness depends on (i) depth of flange surface roughness, (ii) compressibility of the gasket, and (iii) gasket surface stress at working pressure.



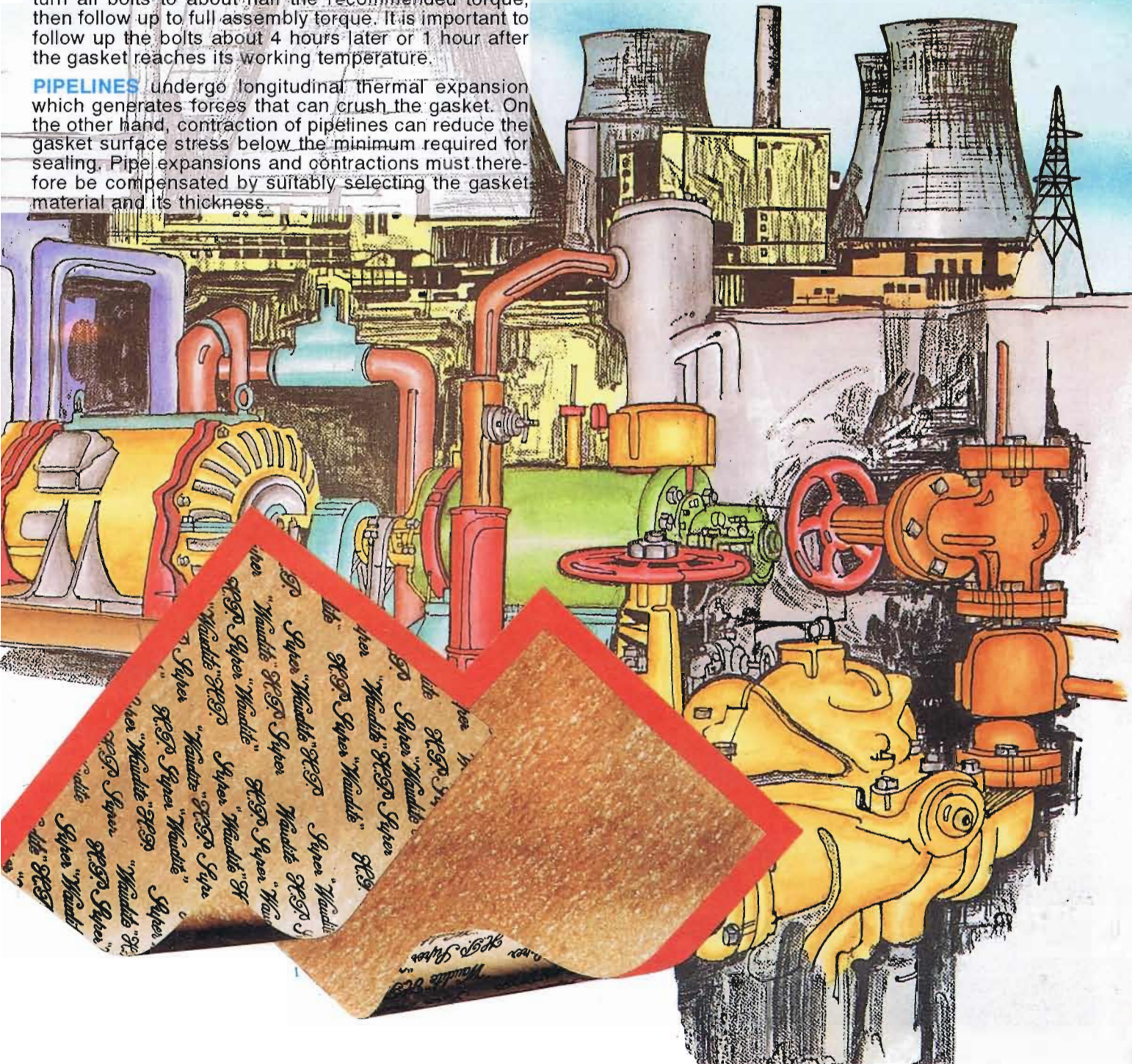
## GASKET ASSEMBLY GUIDELINES – FOR GETTING THE MOST :

**FLANGES** should be even and parallel and also sufficiently rigid not to be distorted by the bolt load.

**FLANGE FINISH** is important. Concentric groove finish is ideal for high pressure. Spiral (gramophone) groove finish gives a continuous path for leakage and is not recommended for gases. For flanges with flat surface a finish equivalent to  $\nabla\nabla$  is considered best.

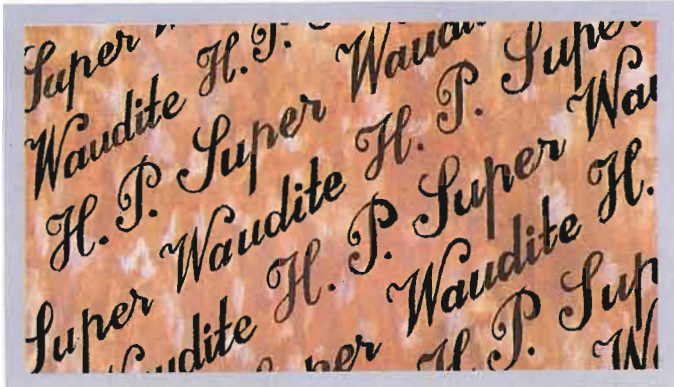
**BOLTS** should be tightened with a torque spanner, working at diametrically opposite nuts alternately. First turn all bolts to about half the recommended torque, then follow up to full assembly torque. It is important to follow up the bolts about 4 hours later or 1 hour after the gasket reaches its working temperature.

**PIPELINES** undergo longitudinal thermal expansion which generates forces that can crush the gasket. On the other hand, contraction of pipelines can reduce the gasket stress below the minimum required for sealing. Pipe expansions and contractions must therefore be compensated by suitably selecting the gasket material and its thickness.



# SUPER WAUDITE JOINTINGS PVT.LTD.

## SUPER WAUDITE H.P.



A super quality jointing composed of carefully selected Chrysotile asbestos fibre with a specially compounded heat-resisting synthetic rubber binder. Used mainly on steam services and conditions where reliability at high temperature and pressure is demanded. Also good resistance to a wide range of oils, Alkalies, Chemicals, Petroleum distillates and solvents. This grade is widely used in marine engines, electricity generating sets, etc.

Temperature	: Recommended Max. 550° C
Pressure	: Recommended Max. 160 Kg/cm <sup>2</sup>
Specification Compliance	: IS 2712 - 1979 grade W/1 IS 2712 - 1971 grade A/S B.S. 2815 - 1973 grade A
Colour	: Red generally; on demand graphited.
Printed	: Black all over one side generally.
Available Sheets	: 1590 mm x 2000 mm ± 5 % & 3180 mm x 2000 mm ± 5 %
Thickness	: 0.25 mm, 0.4 mm, 0.75 mm, 1.5 mm, 3.0 mm, (Other thicknesses on request, subject to minimum manufacturing quantity)

**Super Waudite Metallic** is available with wire gauge insertion in thickness of 0.75 mm, 1.5 mm, 3.0 mm, and is suitable for :

Temperature	: Recommended Max. 600° C
Pressure	: Recommended Max. 180 Kg/cm <sup>2</sup>



## WAUDITE



A Good quality moderate service compressed asbestos jointing recommended for use against dry and wet steam, water, gases, alkalies, oil at normal temperatures, chemicals, and fuels, etc. Extensively used for application in maintenance, services in all Industries.

Temperature	: Recommended Max. 460° C
Pressure	: Recommended Max. 80 Kg/cm <sup>2</sup>
Specification Compliance	: IS 2712 - 1979 grade W/2 IS 2712 - 1971 grade B/C B.S. 2815 - 1973 grade A
Colour	: Red generally; on demand graphited.
Printed	: Black all over one side generally.
Available Sheets	: 1590 mm x 2000 mm ± 5 % & 3180 mm x 2000 mm ± 5 %
Thickness	: 0.25 mm, 0.4 mm, 0.75 mm, 1.5 mm, 3.0 mm, (Other thicknesses on request, subject to minimum manufacturing quantity)

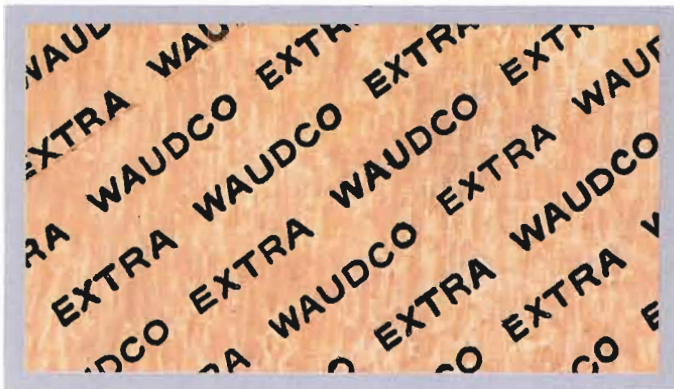
**Waudite Metallic** is available with wire gauge insertion in thickness of 0.75 mm, 1.5 mm, 3.0 mm, and is suitable for :

Temperature	: Recommended Max. 480° C
Pressure	: Recommended Max. 100 Kg/cm <sup>2</sup>





### WAUDCO EXTRA



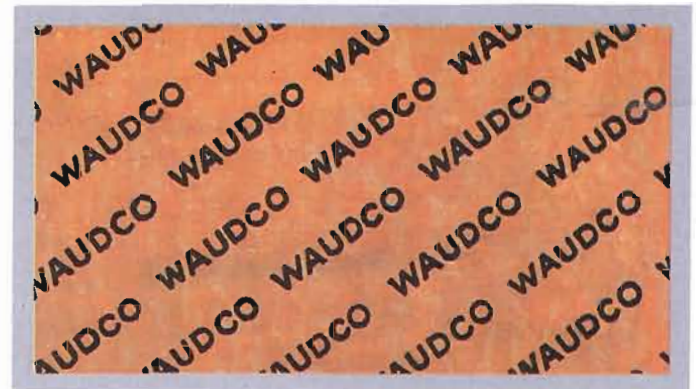
A good Jointing material developed with selected asbestos fibre for moderate service providing excellent sealing strength and heat resistance for medium stresses, and is suitable to seal off water, steam, air, saline solutions, alkalies, ammonia and mildly aggressive media.

Temperature	: Recommended Max. 440° C
Pressure	: Recommended Max. 80 Kg/cm <sup>2</sup>
Specification Compliance	: IS 2712 - 1979 grade W/2 IS 2712 - 1971 grade 'C'
Colour	: Red generally; on demand graphited.
Printed	: Black all over one side generally.
Available Sheets	: 1590 mm x 2000 mm ± 5 % & 3180 mm x 2000 mm ± 5 %
Thickness	: 0.4 mm, 0.75 mm, 1.5 mm, 3.0 mm, (Other thicknesses on request, subject to minimum manufacturing quantity)

**Waudco Extra Metallic** is available with wire gauge insertion in thickness of 0.75 mm, 1.5 mm, 3.0 mm, and is suitable for :

Temperature	: Recommended Max. 460° C
Pressure	: Recommended Max. 90 Kg/cm <sup>2</sup>

### WAUDCO



A good quality general purpose jointing material developed for low and medium stress conditions. Suitable for complete sealing of steam, water, air and various mild alkaline chemicals. Extensive application in plant maintenance, for wide range of services in all Industries.

Temperature	: Recommended Max. 380° C
Pressure	: Recommended Max. 35 Kg/cm <sup>2</sup>
Specification Compliance	: IS 2712 - 1979 grade W/3 IS 2712 - 1971 grade 'C'
Colour	: Red generally; on demand graphited.
Printed	: Black all over one side generally.
Available Sheets	: 1590 mm x 2000 mm ± 5 % & 3180 mm x 2000 mm ± 5 %
Thickness	: 0.4 mm, 0.75 mm, 1.5 mm, 3.0 mm, (Other thicknesses on request, subject to minimum manufacturing quantity)

**Waudco Metallic** is available with wire gauge insertion in thickness of 0.75 mm, 1.5 mm, 3.0 mm and is suitable for :

Temperature	: Recommended Max. 415° C
Pressure	: Recommended Max. 45 Kg/cm <sup>2</sup>



# SUPER WAUDITE JOINTINGS PVT.LTD.

## SUPER WAUDITE OIL(0/1)



A high grade asbestos fibre bonded with synthetic binder having exceptional resistance to oils and solvents. Widely used in oil and petro-chemical industries. In addition, it is particularly suitable for use with refrigerants and all conditions calling for high resistance to hydrocarbons. Also used in oil cracking plants, coal distillation units and high pressure stills, and is equally satisfactory against water, steam, and general chemicals.

Temperature	: Recommended Max. 550° C
Pressure	: Recommended Max. 160 Kg/cm <sup>2</sup>
Specification	: IS 2712 - 1979 grade 0/1
Compliance	: IS 2712 - 1971 grade A/0 B.S. 1832 - 1972
Colour	: Black.
Printed	: White on one side generally.
Available Sheets	: 1590 mm x 2000 mm ± 5 % & 3180 mm x 2000 mm ± 5 %
Thickness	: 0.25 mm, 0.4 mm, 0.75 mm, 1.5 mm, 3.0 mm, (Other thicknesses on request, subject to minimum manufacturing quantity)

**Super Waudite Oil (0/1) Metallic** is available with wire gauge insertion in thickness of 0.75 mm, 1.5 mm, 3.0 mm and is suitable for :

Temperature	: Recommended Max. 600°C
Pressure	: Recommended Max. 180 Kg/cm <sup>2</sup>



## SUPER WAUDITE OIL (0/2)



A good quality moderate service compressed asbestos jointing bonded with special rubber compound. Recommended for use with most transmission and hydraulic fluids, and low temperature oils. Also used against dry and wet steam, water, gases, alkalis, oil at normal temperature, chemicals and fuels.

Temperature	: Recommended Max. 450° C
Pressure	: Recommended Max. 140 Kg/cm <sup>2</sup>
Specification	: IS 2712 - 1979 Grades 0/2, W/2
Compliance	: IS 2712 - 1971 Grade B/S
Colour	: Black / grey.
Printed	: White on one side generally.
Available Sheets	: 1590 mm x 2000 mm ± 5 % & 3180 mm x 2000 mm ± 5 %
Thickness	: 0.25 mm, 0.4 mm, 0.75 mm, 1.5 mm, 3.0 mm, (Other thicknesses on request, subject to minimum manufacturing quantity)





### SUPER WAUDITE ACID



A high quality compressed asbestos jointing with an acid resistant binder, a result of extensive research and practical field experience. Recommended for use under conditions of temperature and pressure commonly encountered in chemical and allied industries, for hot and cold concentrated nitric- hydrochloric or sulphuric acids. Can also be used with glass or ceramic flanges.

Temperature	: Recommended Max. 210° C
Pressure	: Recommended Max. 150 Kg/cm <sup>2</sup>
Specification Compliance	: IS 2712 - 1979 grade A/1
Colour	: Pale grey
Printed	: Black on one side generally.
Available Sheets	: 1590 mm x 2000 mm ± 5 % & 3180 mm x 2000 mm ± 5 %
Thickness	: 0.4 mm, 0.75 mm, 1.5 mm, 3.0 mm, (Other thicknesses on request, subject to minimum manufacturing quantity)



## DET NORSKE VERITAS MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 00010-2002-AQ-BDA-RvA

*This is to certify that  
the Quality Management System  
of*

### **SUPER WAUDITE JOINTINGS PVT. LTD.**

*at*  
G-1, Shyamsundar Apartment, 6 Laxmi Society,  
Behind Sheeba Hotel, Navrangpura,  
Ahmedabad-380 009. INDIA

*has been found to conform  
to the Quality Management System Standard:  
**ISO 9001:2000***

*This Certificate is valid for the following product or  
service ranges:*

**MANUFACTURE AND SUPPLY OF ASBESTOS  
AND NON-ASBESTOS BASED JOINTINGS,  
INSULATION, SEALING AND PACKING  
PRODUCTS**

*Original Certificate date :*  
2002-10-28

*Place and date :*  
New Delhi, 2002-10-28

*This Certificate is valid until :*  
2005-10-28

*for the Accredited Unit :*  
DNV CERTIFICATION B.V.  
THE NETHERLANDS

*Compliance to the Standard in respect to the  
indicated scope is verified by the  
DNV approved registered Team Leader :*

**M. L. Badheka**  
Lead Auditor

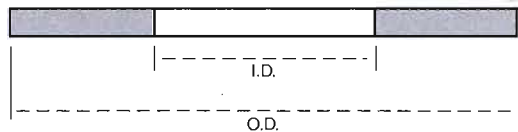
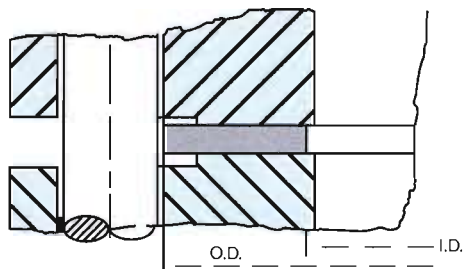
**A. Venkataram**  
Management Representative

*Lack of Fulfilment of Conditional as set out in the  
Appendix may render this Certificate in valid*

# Flat Sheet Gaskets - Dimensional Data

## Flat Ring Gasket to ASME B16.21

To Suit ASME / ANSI B16.5 & BS 1560 Flanges



NOMINAL PIPE SIZE	INSIDE DIAMETER mm	OUTSIDE DIAMETER					
		CLASS 150 mm	CLASS 300 mm	CLASS 400 mm	CLASS 600 mm	CLASS 900 mm	CLASS 1500*
½	21.4	47.6	54.0	54.0	54.0	63.5	63.5
¾	27.0	57.2	66.7	66.7	66.7	69.9	69.9
1	33.3	66.7	73.0	73.0	73.0	79.4	79.4
1¼	42.1	76.2	82.6	82.6	82.6	88.9	88.9
1½	48.4	85.7	95.3	95.3	95.3	98.4	98.4
2	60.3	104.8	111.1	111.1	111.1	142.9	142.9
2½	73.0	123.8	130.2	130.2	130.2	165.1	165.1
3	88.9	136.5	149.2	149.2	149.2	168.3	174.6
3½	101.6	161.9	165.1	161.9	161.9	-	-
4	114.3	174.6	181.0	177.8	193.7	206.4	209.6
5	141.3	196.9	215.9	212.7	241.3	247.7	254.0
6	168.3	222.3	250.8	247.7	266.7	288.9	282.6
8	219.1	279.4	308.0	304.8	320.7	358.8	352.4
10	273.1	339.7	361.9	358.8	400.0	435.0	435.0
12	323.9	409.6	422.3	419.1	457.2	498.5	520.7
14	355.6	450.8	485.8	482.6	492.1	520.7	577.8
16	406.4	514.3	539.7	536.6	565.1	574.7	641.3
18	457.2	549.3	596.9	593.7	612.8	638.2	704.8
20	508.0	606.4	654.0	647.7	682.6	698.5	755.6
24	609.6	717.5	774.7	768.3	790.6	838.2	901.7

\* Class 1500 rating is no longer specified in ASME B16.21



**SUPER WAUDITE  
JOINTINGS PVT. LTD.**



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