

# SINTALOCK® STEEL PIPELINE SYSTEM

DN 300 TO DN 1800. RESTRAINED RUBBER RING JOINT

## SINTALOCK JOINT RATED PRESSURES CONTINUED

Pipe OD mm	Wall thickness mm	Material YS MPa	SINTALOCK rated pressures	
			Type I MPa	Type II MPa
1283	8	300	1.68	2.69
1283	10	300	2.10	3.37
1290	8	300	1.67	2.68
1290	10	300	2.09	3.35
1404	10	300	1.92	3.08
1404	12	300	NA	3.5
1422	10	300	1.90	3.04
1440	10	300	NA	3.00
1440	12	300	NA	3.5
1451	10	300	NA	2.98
1451	12	300	NA	3.5
1500	10	300	NA	2.88
1500	12	300	NA	3.46
1575	10	300	NA	2.74
1575	12	300	NA	3.29
1600	12	300	NA	3.24
1626	12	300	NA	3.19
1750	12	300	NA	2.96
1829	12	300	NA	2.83

\* For further sizes and greater pressures please contact your local Steel Mains Regional Sales Office

SINTALOCK Joint Type I maximum allowed operating hoop stress is 45% of the Yield Strength (YS) for 300MPa YS pipe steel

SINTALOCK Joint Type II is rated at a pressure corresponding to 72% Yield Strength with a maximum of 3.5MPa Rated Pressure (RP) for 300 MPa YS pipe steel

\*\* SINTALOCK Joint Type II StandardsMark™ approval pending



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## FEATURES

Steel Mains SINTALOCK joint consists of a rubber ring joint and external site fillet weld

With no need to enter pipes for welding or lining reinstatement, safety is increased, corrosion protection enhanced and laying rates improved

SINTALOCK eliminates the need for thrust blocks, significantly reducing construction time

SINTALOCK is available for 324-1829mm outside diameter pipe

Type I and Type II joints are available dependant upon pipe diameter and rated pressure required

Each joint provides an angular deflection of up to 1.1°

Unique joint design means the lining is unaffected by the fillet welding process

Suitable for potable and non-potable applications

## DESCRIPTION

### Increased pressure rating

Based on Steel Mains testing and research, the SINTALOCK Joint Type I allowable operating hoop stress will now be equal to 45% of the material yield strength (YS) for 300MPa steel

The increase in the pressure rating of the SINTALOCK Joint Type I is the result of testing and recalibrating the basis of the original design. The initial pressure rating criteria was found to be excessively conservative resulting in a single welded joint that was far more robust than the currently accepted welded pipe joints and even the pipe itself

Therefore the joint rated pressure has been raised from 36% of YS for hoop stress to 45% YS for 300 grade steel to better align with the strength of other elements in the pipeline. This will result in a more economical pipeline design

Following over two years of extensive research and development, Steel Mains is introducing a revolutionary, new joint technology - SINTALOCK Joint Type II

Physical fatigue testing as well as finite element analysis on a range of wall thickness and pipe diameters have been performed to determine the joint configuration and allowable operating pressures

The SINTALOCK Joint Type II is rated at a pressure corresponding to 72% Yield Strength with a maximum of 3.5MPa rated pressure (RP) for 300MPa YS

SINTALOCK does not require internal welding or lining reinstatement and enables construction of a fully end restrained pipeline without the need for concrete thrust blocks

This is a significant improvement on welded joints as it eliminates the safety issues associated with entry

## TECHNICAL DATA

**Size Range** 324 to 1829mm

**Rated Pressures** Up to 5.0MPa\*

**Temperature Range** -40° to 70°C

**End Connections** AS 1579 - Arc-welded steel pipes and fittings for water and wastewater

**Standards** AS 1579 - Arc-welded steel pipes and fittings for water and wastewater\*\*

**Certifications**  
Certified to AS/NZS 4020 - Suitable for contact with drinking water

