

## WATER TRANSMISSION SYSTEMS THE ADVANTAGES OF STEEL

SINTAKOTE® LARGE DIAMETER STEEL PIPELINE SYSTEMS CAN BE TAILOR MADE TO SUIT SPECIFIC DESIGN REQUIREMENTS



Whether you're the designer, specifier, purchaser, constructor or operator, Steel Mains products can add value with a complete solution to your pipeline needs.

### TIME INDEPENDENT STRENGTH

For most water industry applications, the properties of steel are retained indefinitely.

By contrast, the load response of plastic based products is time and temperature dependent. Plastics are strain rate sensitive under load and are subject to creep at ambient temperatures.

The structural capability of steel is a constant. Proof testing demonstrates both short and long term fitness for purpose.

### LOWER COSTS THROUGH STRENGTH

Steel stands alone in offering the greatest strength in proportion to wall thickness of any commercial piping material available.

This feature not only enables the use of higher operating pressures but also optimises installation costs through high ring bending and beam strength.

Compaction requirements are not as demanding as those for pipes of low ring stiffness. The higher beam strength of steel pipes also provides protection against poor bedding and settlement.

In above ground installations steel pipe spans can be significantly longer than those of alternative materials, minimising piers and other supports.

### DUCTILITY FOR PERFORMANCE IN EXTREME CONDITIONS

Through its ductility, steel pipe is able to locally yield and plastically deform under extreme load while maintaining resistance to that load. Stresses caused by unforeseen loads including impact, earth movement, wash-outs and extreme temperature changes can readily be accommodated. Service performance can thus be maintained in such conditions.

### HIGH IMPACT RESISTANCE MINIMISES ACCIDENTAL DAMAGE COSTS

Steel pipe is able to absorb shock loadings transmitted due to surface vibrations, pressure surges or water hammer, as well as those that may be experienced during handling and installation.



### RELIABILITY OF LONG TERM PERFORMANCE

Because it retains its strength and stiffness characteristics, regardless of age, steel pipe can be relied upon to maintain its original performance over generations.

Steel pipelines operating today, with over a century of service, are a real testimony to this capability.

### BOOSTING CAPACITY FOR THE FUTURE

In many instances it is necessary to increase the capacity of a water supply pipeline some years after installation. This may be as a result of unforeseen population growth or industrial expansion.

Steel pipelines designed on the basis of initial ring stiffness requirements often have capacity for a significant increase in pressure without reducing safety factors.

### FASTER LAYING RATES AND FIELD HYDROSTATIC TEST

Steel Mains steel pipes can be supplied in effective laying lengths up to 11.7 metres, depending on diameter. This means less pipes to be handled and installed and fewer field joints compared to alternative materials.

### WELDED OR RUBBER RING JOINTS GIVE DESIGN FLEXIBILITY

Welded joints provide total structural integrity and eliminate the need for thrust blocks.

Rubber ring joints allow simple, rapid construction and provide a capacity for minor changes in alignment and settlement.

SINTALOCK combines the best features of both these joints.

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