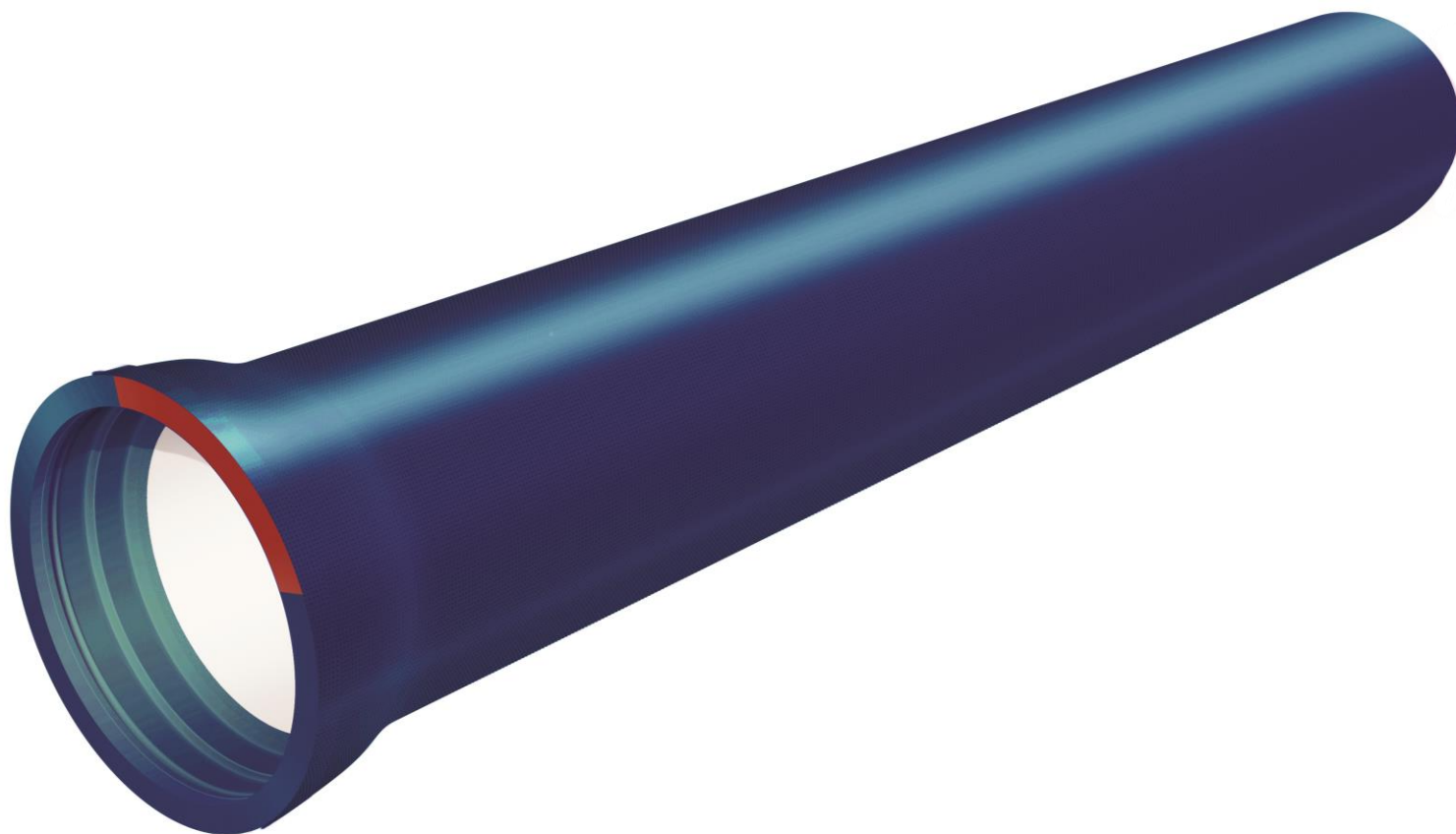


DIMAX TYTON® DUCTILE IRON PIPE SYSTEMS

PN35 RUBBER RING JOINT



Z+ ZINC / ALUMINIUM / RARE EARTH ALLOY & SYNTHETIC RESIN COATING

Z+ is a modern, high effective active corrosion protection layer made from zinc, aluminium and rare earths. Applied at 400g/m², Z+ is twice the density required by AS2280 for zinc and is finished with a 100µm average synthetic resin layer.

Active protection means that the pipe continues to be protected in case of superficial damage to the external coating.

Z+ provides the opportunity to take advantage of a factory applied corrosion protection system, extending the life of your pipeline and reducing the on-site handling via eliminating the requirement for polyethylene sleeving.

THE Z+ ADVANTAGE

Z+ provides exception pipeline performance and durability, increasing the pipe life by up to 3 times that of standard zinc coated pipe. Suitable for more than 95% of frequently encountered ground types.

Soil assessment must be carried out to ensure resistivity is greater than 500 ohm.cm prior to sleeveless installation.

CERTIFICATIONS

License No. – WMK26514 SMK26514

EN15 655.1 – Polyurethane lining of pipes and fittings

AS/NZS 2280 – Ductile Iron Pipes & Fittings

AS 4020 – Testing for use in contact with drinking water



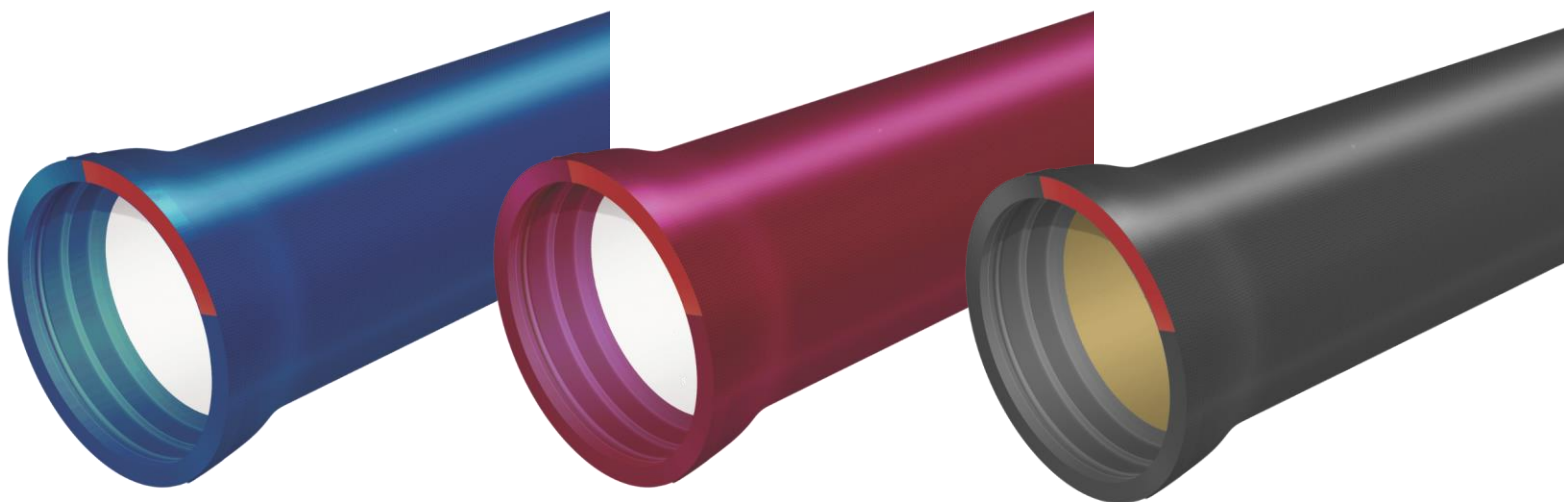
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APPLICATION

DIMAX TYTON® PN35 matches the maximum flange table rating of the most common water industry applications. Beam strength, heavy duty ring stiffness and critical buckling resistance across the entire size range.



TYTON® XCEL

DIMAX TYTON® XCEL includes a Sulphate Resisting (SR) cement lining, available with an internal seal coat.

Standard lining is centrifugally spun cement mortar lining made up of Type SR (Sulphate Resisting) cement.

An additional seal coat is an available option and is applied to the cement lining surface. This seal coat inhibits the leaching of lime where very aggressive, soft waters of low hardness (total alkalinity <30mg/L) or high dissolved CO₂ are being conveyed.

Ideal for the conveyance of:

- Potable water
- Recycled water
- Raw water

TYTON® XTREME

DIMAX TYTON® XTREME incorporates a high wear-resistant Calcium Aluminate Cement (CAC) mortar lining.

This lining protects the internal surface from corrosion, tuberculation, bacteriogenic acid attacks when conveying aggressive fluids common in sewage and wastewater pipelines. Additionally, the lining is watertight and prevents root ingress.

Ideal for the conveyance of wastewater including:

- Gravity and pressure sewer effluent
- Domestic waste waters
- Mining slurries and process water
- pH4-pH12 fluids

TYTON® XCEED

DIMAX TYTON® XCEED's PU lining is applied in accordance with EN15655 and has an average thickness of 1300-1500µm.

This coating protects the internal surface from highly aggressive fluids, ensuring the pipe is protected from all transported liquids.

Ideal for the conveyance of potable water, wastewater and sewer including:

- Very soft water (hardness less than 1mg/L) combined with extremely long residence times
- Mineral water i.e. water whose chemical specifications must remain unchanged between pipeline inlet and outlet
- Aggressive conveyants including septic sewage, high CO₂, chlorides, sulphates and brine

DIMAX TYTON® DUCTILE IRON PIPE SYSTEMS

PN35 RUBBER RING JOINT



		SYMBOL	UNITS	100	150	200	225	250	300	375	450	500	600	750
KEY METRICS	Nominal Pressure	PN	Nom	35	35	35	35	35	35	35	35	35	35	35
	Mean external diameter	Øy	mm	122	177	232	259	286	345	246	507	560	667	826
	Effective laying length	Le	m	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
	Joint Deflection	°	deg	3.5	3.5	3.5	3.5	3.5	2.5	2.5	2.5	2.5	2.5	1
UNJUNED PIPE	Mean internal diameter	DI	mm	112	167	222	249	276	333	412	491	542	647	801
	Pipe barrel mass per metre	m _u	kg/m	12.7	19	25.1	28.1	32.3	44.3	65	89.5	107.4	148.4	221.7
	Pipe mass including socket	M _u	kg	77	115	155	173	199	271	403	548	655	897	1332
SOCKET	Socket mass	S	kg	4.9	6.7	12	13	15	18.8	32.7	37.8	42.6	51.2	68.5
DI WALL THICKNESS	Nominal	t	mm	4.9	5	5	5	5.2	5.9	7	8.1	8.8	10.2	12.3
	Minimum	a	mm	3.5	3.5	3.5	3.5	3.6	4.3	5.3	6.3	7	8.3	10.2
CEMENT MORTAR LINED PIPE	Mean internal diameter	D _c	mm	103	158	213	240	267	324	403	482	533	638	790
	Nominal CML thickness	t _{c nom}	mm	5	5	5	5	5	5	5	5	5	5	6
	Minimum CML thickness	t _{c min}	mm	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.5
	Pipe barrel mass per metre	M _L	kg/m	16.4	24.6	32.5	36.4	41.5	55.5	78.8	106	125.7	170.2	254.7
	Pipe mass including socket and CML	M _I	kg	98	147	197	221	252	335	482	642	759	1021	1520
THEORETICALLY RATED PRESSURES	Allowable operating pressure	AOP	MPa	8.27	5.65	4.29	3.84	3.57	3.53	3.53	3.52	3.54	3.53	3.5
	Maximum allowable operating pressure	MAOP	MPa	9.92	6.78	5.15	4.6	4.28	4.24	4.23	4.23	4.25	4.23	4.2
	Allowable site test pressure	ASTP	MPa	10.34	7.06	5.36	4.79	4.46	4.42	4.41	4.4	4.43	4.41	4.38
	Burst pressure	BURST	MPa	25	17	13	12	11	11	11	11	11	11	11
STRUCTURAL & HYDRAULIC PROPERTIES	Transform wall thickness	t _t	mm	4.55	4.6	4.6	4.6	4.75	5.45	6.5	7.55	8.25	9.6	11.7
	Celerity of mean CML bore	c	m/s	1265	1199	1141	1115	1099	1086	1076	1069	1066	1060	1056
	Barrel ring stiffness	S ₀	kN/m/m	816	267	117	83	68	58	53	49	47	44	42
	Buckling pressure	P	kPa	8612	2822	1231	880	717	616	555	515	499	465	443
FREIGHT	Pipes (lined) per truck	P/T	n	190	130	90	72	70	56	40	24	24	12	8
	Kilos per truck	n x M _L	kg	18646	19077	17764	15883	17623	18757	19272	15409	18217	12254	12161
WATER MASS	Mass of water contained in pipe	m _w	kg/m	8	20	36	45	56	83	128	182	223	319	491
MASS FULL	Mass of pipe full of water	M _T	kg/m	26	45	70	84	100	141	212	295	357	498	757
BENDING MOMENT AND FOS AGAINST FLEXURAL YIELD	Moment = wL ² /8 for simply supported beam over ELL	M _B	kNm	1.02	1.81	2.8	3.34	3.98	5.63	8.45	11.75	14.21	19.86	30.17
	Y = DE/2	y	mm	61	89	116	130	143	173	213	254	280	334	413
	I = π (DO ⁴ -Di ⁴)/64	I	mm ⁴	2.29E+06	7.18E+06	1.64E+07	2.29E+07	3.18E+07	6.68E+07	1.55E+08	3.11E+08	4.65E+08	9.32E+08	2.18E+08
	O = My/I Note max M = 3wL ² /8	σ _y	MPa	81	67	59	57	54	44	35	29	26	21	17
	FOS = Yield stress / working stress	FOS	η	3.7	4.5	5.1	5.3	5.6	6.9	8.6	10.4	11.7	14.1	17.5