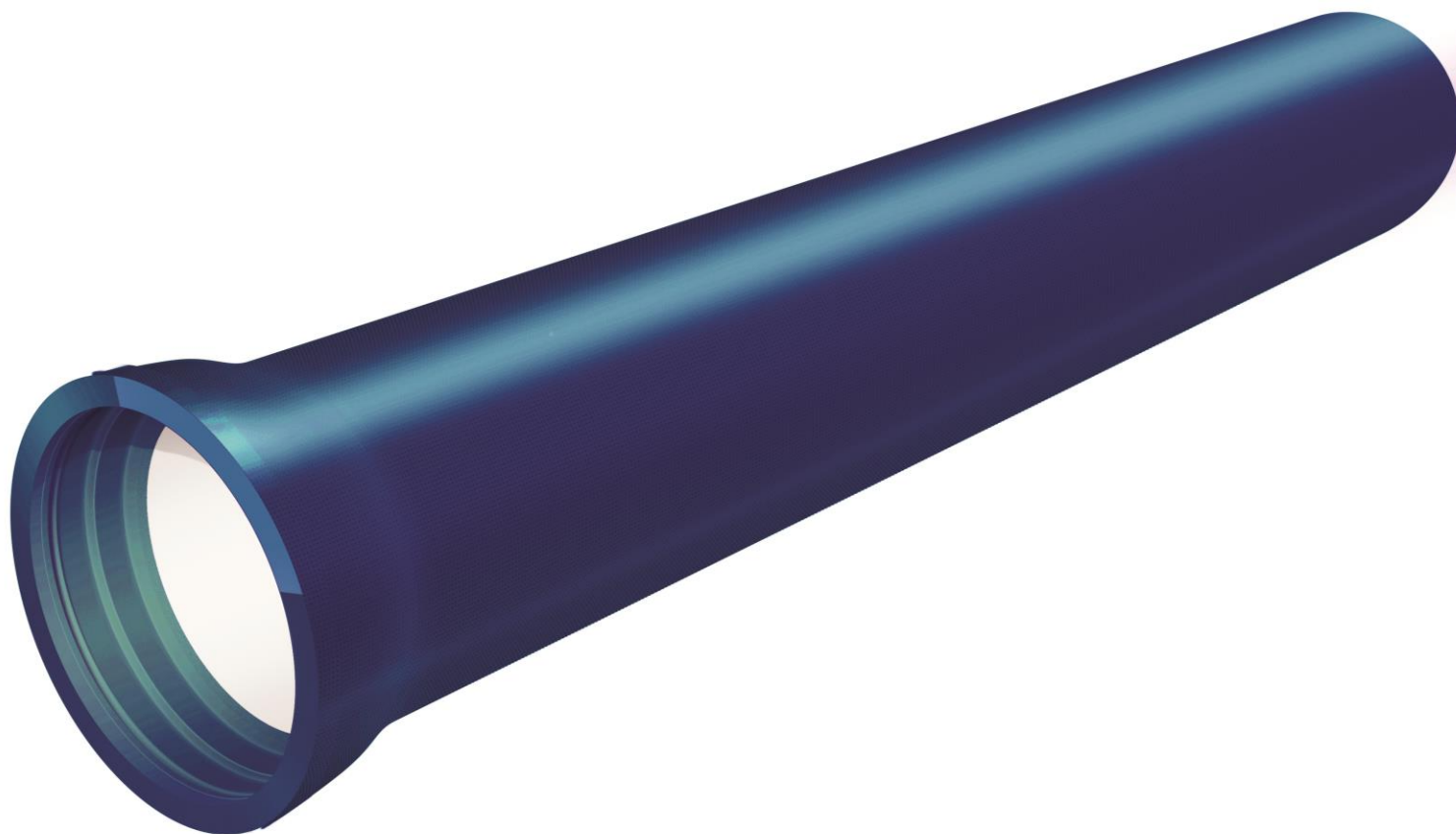


DIMAX TYTON® Z+ DUCTILE IRON PIPE SYSTEMS

DN100-750 FLANGE CLASS RRJ



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

Z+ is a modern, highly 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 exceptional 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

Licence No. – WMK26514 SMK26514

AS/NZS 2280 – Ductile Iron Pipes & Fittings

AS4020 – Testing for use in contact with drinking water

EN15 655.1 – Polyurethane lining of pipes and fittings



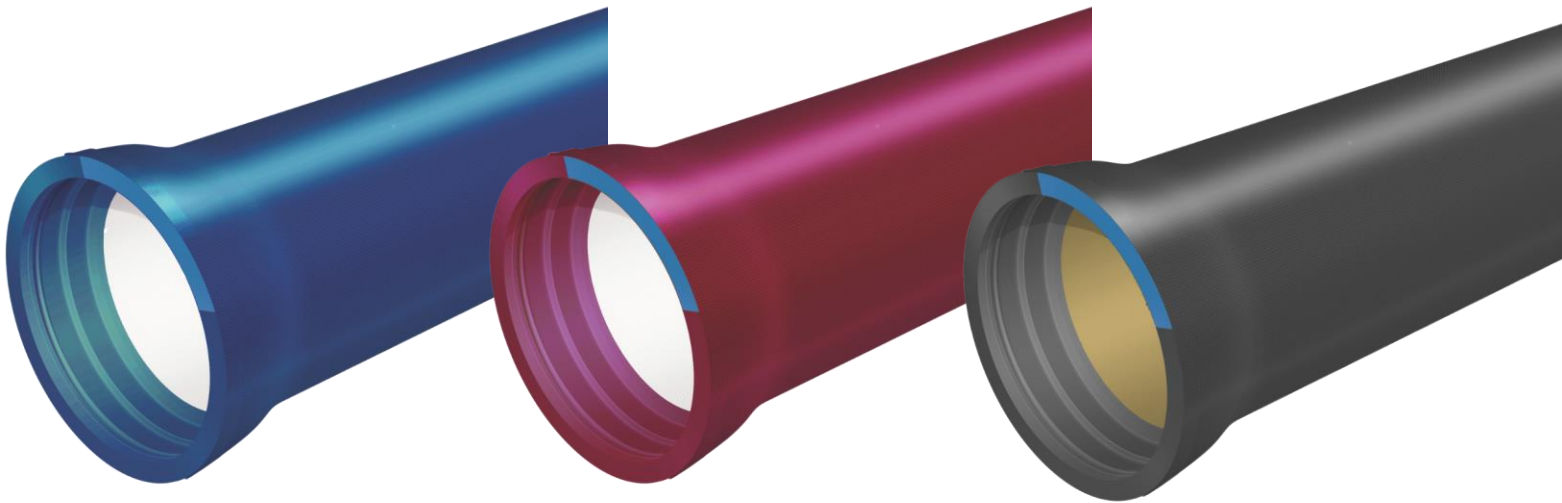
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APPLICATION

DIMAX TYTON® Flange Class (FLCL) ductile iron pipe is specially manufactured with thicker walls to allow machining and screw threading attachment of flanges.



TYTON® XCEL Z+

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 Z+

DIMAX TYTON® XTREME incorporates a highly 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 Z+

DIMAX TYTON® XCEED includes an internal polyurethane (PU) coating, 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® Z+ DUCTILE IRON PIPE SYSTEMS

DN100-750 FLANGE CLASS RRJ



		SYMBOL	UNITS	100	150	200	225	250	300	375	450	500	600	750
KEY METRICS	Nominal Pressure	PN	Nom	FLCL	FLCL	FLCL	FLCL	FLCL	FLCL	FLCL	FLCL	FLCL	FLCL	FLCL
	Mean external diameter	Øy	mm	122	177	232	259	286	345	426	507	560	667	826
	Effective laying length	L _e	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
UNLINED PIPE	Mean internal diameter	DI	mm	107	162	215	242	267	326	405	483	536	641	796
	Pipe barrel mass per metre	m _u	kg/m	18.8	28.2	42.1	47.2	58.8	71.3	98.4	129.4	143.3	186.9	271.2
	Pipe mass including socket	M _u	kg	107	178	237	297	329	440	553	723	868	1165	1607
SOCKET	Socket mass	S	kg	4.3	5.9	8.6	10.4	11.3	13.4	23.7	27.7	30.3	35.6	60.8
DI WALL THICKNESS	Nominal	t	mm	7.4	7.5	8.5	8.5	9.6	9.6	10.7	11.8	11.8	12.9	15.1
	Minimum	a	mm	6	6	7	7	8	8	9	10	10	11	13
CEMENT MORTAR LINED PIPE	Mean internal diameter	D _c	mm	98	153	206	233	258	317	396	474	527	632	785
	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	22.3	33.5	49.2	55.2	67.7	82.2	112	145.7	161.3	208.5	304
	Pipe mass including socket and CML	M _I	kg	131	197	289	325	397	482	662	858	950	1224	1793
THEORETICALLY RATED PRESSURES	Allowable operating pressure	AOP	MPa	14.48	9.82	8.71	7.78	8.06	6.65	6.04	5.63	5.09	4.7	4.48
	Maximum allowable operating pressure	MAOP	MPa	17.38	11.79	10.45	9.33	9.67	7.98	7.25	6.76	6.11	5.63	5.37
	Allowable site test pressure	ASTP	MPa	18.1	12.28	10.89	9.72	10.07	8.31	7.55	7.04	6.36	5.87	5.6
	Burst pressure	BURST	MPa	43	29	26	23	24	20	18	17	15	14	13
STRUCTURAL & HYDRAULIC PROPERTIES	Transform wall thickness	t _t	mm	7.05	7.1	8.1	8.1	9.15	9.15	9.15	10.2	11.25	12.3	14.5
	Celerity of mean CML bore	c	m/s	1322	1272	1248	1229	1232	1197	1176	1160	1138	1119	1107
	Barrel ring stiffness	S _D	kN/m/m	3239	1027	668	475	510	286	209	165	122	94	81
	Buckling pressure	P	kPa	34165	10840	7043	5008	5375	3013	2201	1743	1285	989	851
FREIGHT	Pipes (lined) per truck	P/T	n	180	110	82	68	60	46	36	24	24	12	8
	Kilos per truck	n x M _L	kg	23620	21653	23710	22109	23821	22173	23835	20592	22796	14688	14347
WATER MASS	Mass of water contained in pipe	m _w	kg/m	8	18	33	43	52	79	123	177	218	314	484
MASS FULL	Mass of pipe full of water	M _T	kg/m	31	53	84	100	122	163	239	327	385	529	798
BENDING MOMENT AND FOS AGAINST FLEXURAL YIELD	Moment = wL ² /8 for simply supported beam over ELL	M _B	kNm	1.22	2.11	3.35	3.97	4.85	6.51	9.52	13.04	15.34	21.06	31.81
	Y = DE/2	y	mm	61	89	116	130	143	173	213	254	280	334	413
	I = n/64 (DO 4-Di4)	I	mm ⁴	3.69E+06	1.18E+06	3.13E+07	4.40E+07	6.76E+07	1.20E+08	2.56E+08	4.82E+08	6.54E+08	1.22E+09	2.74E+09
	O = My/I Note max M = 3wL ² /8	oy	MPa	60	47	37	35	31	28	24	21	20	17	14
	FOS = Yield stress / working stress	FOS	η	5	6	8.1	8.6	9.7	10.7	12.6	14.6	15.2	17.4	20.9