

DUCTILE IRON PIPES

BS EN 545:2010 BS EN 598:2007+A1:2009



Updated on: 2026.07.28

About Chong Cheong

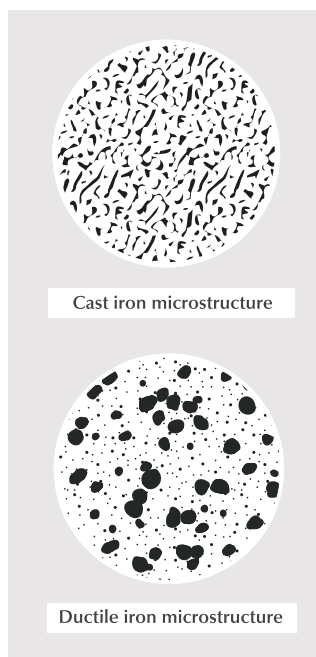
Chong Cheong Foundry Works was set up in the year 1963. In 1987, the company was registered as CHONG CHEONG FOUNDRY WORKS PTE LTD.

The company started out with the manufacturing of cast iron pipe fittings for Housing Development Board Projects. We later venture to produce Cast Iron Manhole Cover for PWD. In as early as 1975, we had our range of product tested and certified by SISIR under the Singapore Quality Mark Certification Scheme. To ensure consistent quality, our products are regularly submitted for testing by Singlas accredited laboratories.

Mission

To be the leading supplier of quality pipe products in Singapore through the continuous and combined effort of our dedicated and committed employee and management.

Properties & Advantages of Ductile Iron



- Ductile iron is also known as nodular cast iron, spheroidal graphite iron (SG); and spherulites graphite cast iron.
- Due to its graphite being in nodular form, ductile iron have high tensile strength, with a greater impact and fatigue resistance.
- It also has high modulus of elasticity and good diametral stiffness which is suitable for laying underground, and can accomodate ground movement.
- It is suitable for conveying of portable & waste water.
- Ductile iron pipe together with its ecternal zinc coating or epoxy / polyurethane coating has high corrosion resistant properties.

Coating & Lining for Ductile Pipes

Standard	External Coating	Internal Lining
BS EN 545	Metallic Zinc & Black Bitumen	Ordinary Portland Cement
BS EN 598	Metallic Zinc & Red Epoxy	High Alumina Cement

Other Available Coating & Lining

External Coating	Internal Lining
> Fusion Bonded Epoxy > Polyurethane	> Fusion Bonded Epoxy > Polyurethane

Mechanical Properties of Ductile Pipe

Pipe Size (DN)	Min. Tensile Strength (N/mm ²)	Min. Elongation (%)	Max. Hardness (HB)
80 - 1000	420	10	230
1100 - 2000	420	7	230

Centrifugally Ductile Iron Pipes Hydrostatic Pressure & Holding Time

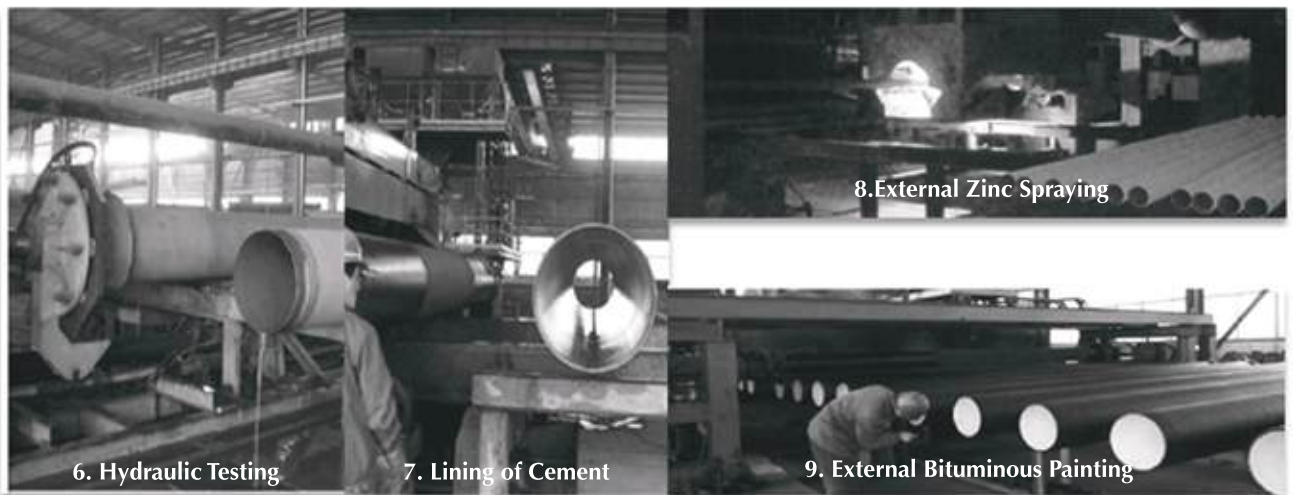
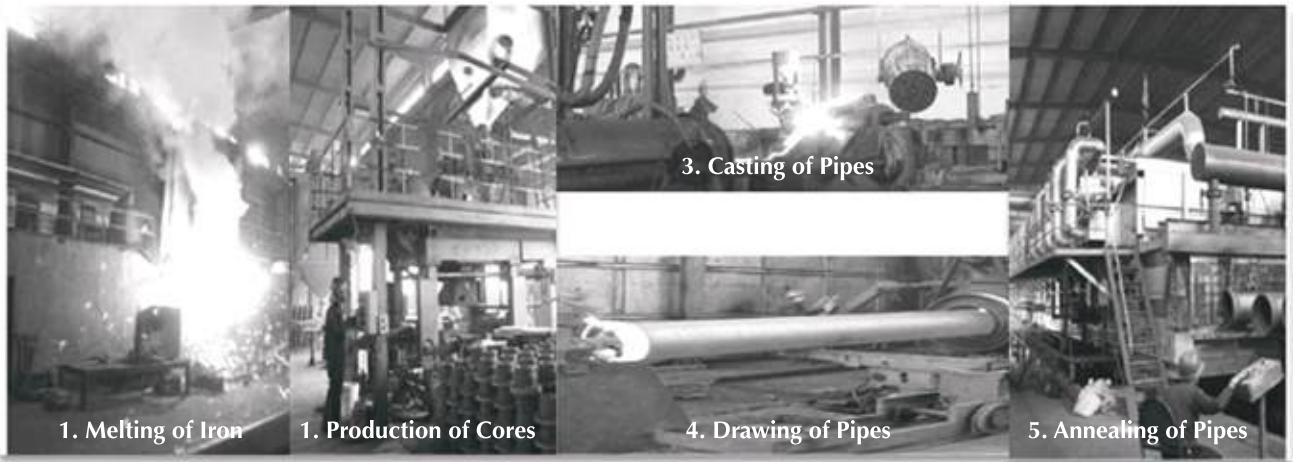
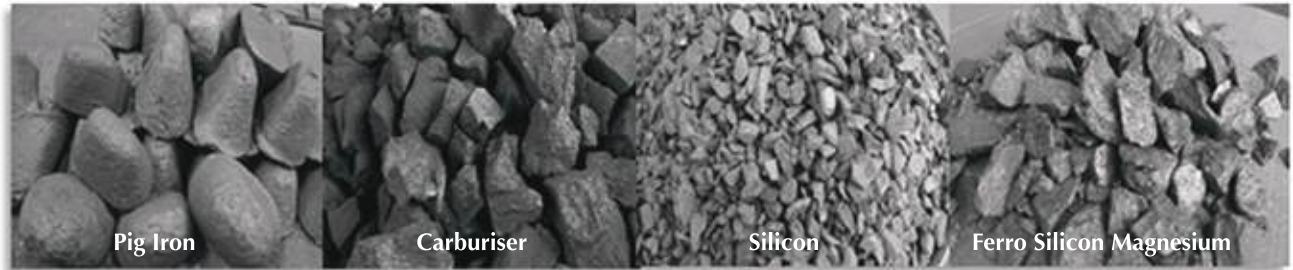
BS EN 545 (Pressure Class)		
Pipe Size (DN)	Hydrostatic Test Pressure (bar)	Holding Time (s)
All	Equal to pressure class but limited to 50	min. 15

BS EN 598 (Pressure Pipes)		
Pipe Size (DN)	Hydrostatic Test Pressure (bar)	Holding Time (s)
80 - 300	32	min. 15
≥ 350	25	min. 15

Thickness of Cement Mortar Lining

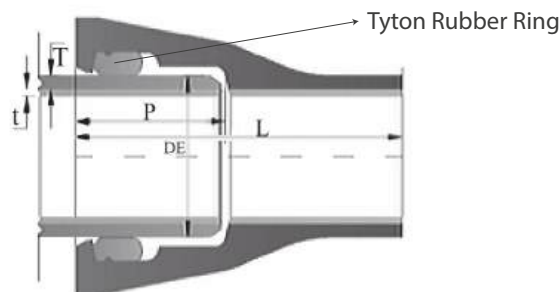
DN	Thickness (mm)	
	Nominal value	Limit deviation
100 to 300	4	- 1.5
350 to 600	5	- 2.0
700 to 1200	6	- 2.5

Ductile Iron Pipe Production



Centrifugally Cast Pipes :

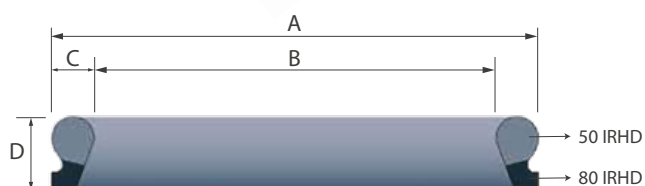
Push-on Joint T Type



Nominal Diameter DN	Spigot Outside Diameter DE		P	Standard Effective Laying Length L	T - Minimum Wall thickness As per BSEN 545:2010 (Pressure Class)						T - Wall Thickness As per BSEN 598/AI:2009 (Pressure Pipes)	
	Diameter DE	Limit Deviations			C25	C30	C40	C50	C64	C100	Nominal	Limit Deviation
80	98	+1/-2.7	85	5500 / 6000			3.0	3.5	4.0	4.7	4.8	-1.3
100	118	+1/-2.8	85	5500 / 6000			3.0	3.5	4.0	4.7	4.8	-1.3
150	170	+1/-2.9	90	5500 / 6000			3.0	3.5	4.0	5.9	4.8	-1.3
200	222	+1/-3.0	105	5500 / 6000			3.1	3.9	5.0	7.7	4.9	-1.3
250	274	+1/-3.1	110	5500 / 6000			3.9	4.8	6.1	9.5	5.3	-1.6
300	326	+1/-3.3	115	5500 / 6000			4.6	5.7	7.3	11.2	5.6	-1.6
350	378	+1/-3.4	130	5500 / 6000		4.7	5.3	6.6	8.5	13.0	6.0	-1.7
400	429	+1/-3.5	130	5500 / 6000		4.8	6.0	7.5	9.6	14.8	6.3	-1.7
450	480	+1/-3.6	130	5500 / 6000		5.1	6.8	8.4	10.7	16.6	6.7	-1.8
500	532	+1/-3.8	135	5500 / 6000		5.6	7.5	9.3	11.9	18.3	7.0	-1.8
600	635	+1/-4.0	140	5500 / 6000		6.7	8.9	11.1	14.2	21.9	7.7	-1.9
700	738	+1/-4.3	155	5500 / 6000	6.8	7.8	10.4	13.0	16.5		9.6	-2.0
800	842	+1/-4.5	160	5500 / 6000	7.5	8.9	11.9	14.8	18.8		10.4	-2.1
900	945	+1/-4.8	175	5500 / 6000	8.4	10.0	13.3	16.6			11.2	-2.2
1000	1048	+1/-5.0	185	5500 / 6000	9.3	11.1	14.8	18.4			12.0	-2.3
1100	1152	+1/-6.0	200	5500 / 6000	10.2	12.2	16.2	20.2			14.4	-2.4
1200	1255	+1/-6.0	215	5500 / 6000	11.1	13.3	17.7	22.0			15.3	-2.5

DN 1400 - DN 2000 are available upon request. Please consult Chong Cheong sales team for assistance.

Dimensions in millimetres

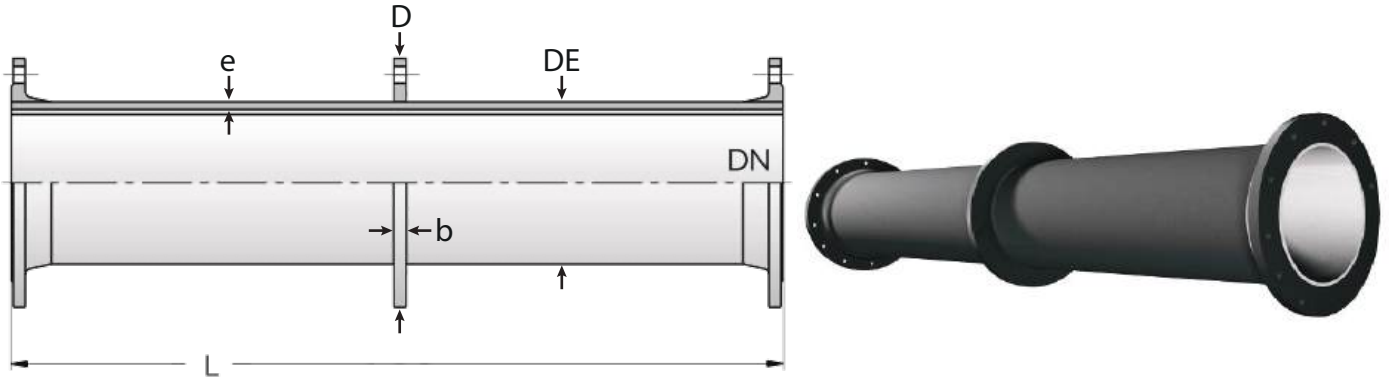


Manufactured from premium-quality EPDM, Tyton push-on rubber rings offer outstanding resistance to aging, ozone, and a broad temperature range. They are designed for potable water, sewage, and a variety of general piping applications, ensuring reliable sealing performance and long-term durability.

Indicative Dimensions

Nominal Diameter (DN)	Outer Diameter (A)	Inner Diameter (B)	Bulb Thickness (C)	Thickness (D)
DN80	124	92	16	26
DN100	144	112	16	26
DN150	198	166	16	26
DN200	254	218	18	30
DN250	308	272	18	32
DN300	364	324	20	34

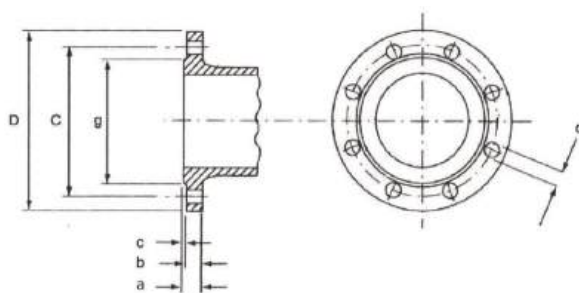
Ductile Iron Weld-on or Screw-on Flanged Pipe



Nominal Diameter DN	Outside Diameter DE (mm)	Nominal wall thickness e (mm)			Approx. mass of pipe barrel c/w cement mortar lining (kg/m)			Approx. mass of PN16 Flange	Mild Steel Puddle Flange	
		Pressure Class		Class K9	Pressure Class		Class K9		D	b
80	98	C100	6.1	6.0	C100	16	16	2.9	195	5
100	118	C100	6.1	6.0	C100	20	19	3.3	208	5
150	170	C100	7.4	6.0	C100	33	28	4.9	282	5
200	222	C64	6.5	6.3	C64	40	39	6.6	334	5
250	274	C64	7.7	6.8	C64	57	51	9.2	382	5
300	326	C50	7.3	7.2	C50	64	63	12.4	457	5
350	378	C40	7.0	7.7	C40	76	81	17.2	510	10
400	429	C40	7.7	8.1	C40	93	95	21.9	570	10
450	480	C40	8.6	8.6	C40	113	113	26.7	-	-
500	532	C40	9.3	9.0	C40	133	130	37.0	-	-
600	635	C40	10.8	9.9	C40	182	168	55.0	-	-
700	738	C40	12.4	10.8	C40	343	218	56.6	-	-
800	842	C40	14.0	11.7	C40	436	267	74.0	-	-
900	945	C30	12.2	12.6	C30	314	320	86.0	-	-
1000	1048	C30	13.4	13.5	C30	376	378	124.3	-	-
1100	1152	C30	14.6	14.4	C30	448	441	139.9	-	-
1200	1255	C30	15.8	15.3	C30	522	509	183.9	-	-

PN16 is a preferred flange. Pipes may be specified in lengths (L), in general not more than effective length of 5.3m & 5.8m for Socket/Spigot pipes of 5.5m and 6m length respectively.

Dimensions of Flanges



PN 10 FLANGE

Nominal Diameter (DN)	D	C	g	a	b	c	BOLT		
							Size	No	d
80	200	160	132	19	16	3	M16	8	19
100	220	180	156	19	16	3	M16	8	19
150	285	240	211	19	16	3	M20	8	23
200	340	295	266	20	17	3	M20	8	23
250	400	350	319	22	19	3	M20	12	23
300	455	400	370	24.5	20.5	4	M20	12	23
350	505	460	429	24.5	20.5	4	M20	16	23
400	565	515	480	24.5	20.5	4	M24	16	28
450	615	565	530	24.5	20.5	4	M24	20	28
500	670	620	582	26.5	22.5	4	M24	20	28
600	780	725	682	30	25	5	M27	20	31
700	895	840	794	32.5	27.5	5	M27	24	31
800	1015	950	901	35	30	5	M30	24	34
900	1115	1050	1001	37.5	32.5	5	M30	28	34
1000	1230	1160	1112	40	35	5	M33	28	37

PN 16 FLANGE

Nominal Diameter (DN)	D	C	g	a	b	c	BOLT		
							Size	No	d
80	200	160	132	19	16	3	M16	8	19
100	220	180	156	19	16	3	M16	8	19
150	285	240	211	19	16	3	M20	8	23
200	340	295	266	20	17	3	M20	12	23
250	400	355	319	22	19.5	3	M24	12	28
300	455	410	370	24.5	20.5	4	M24	12	28
350	520	470	429	26.5	22.5	4	M24	16	28
400	580	525	480	28	24	4	M27	16	31
450	640	585	548	30	26	4	M27	20	31
500	715	650	609	31.5	27.5	4	M30	20	34
600	840	770	720	36	31	5	M33	20	37
700	910	840	794	39.5	34.5	5	M33	24	37
800	1025	950	901	43	38	5	M36	24	40
900	1125	1050	1001	46.5	41.5	5	M36	28	40
1000	1255	1170	1112	50	45	5	M39	28	43

Our Custom Services



Welding



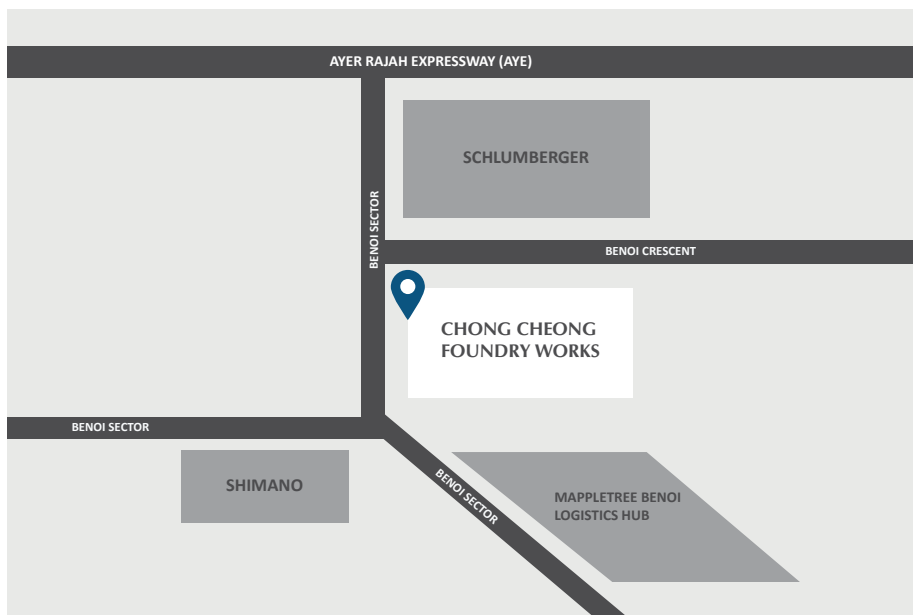
Sawing Machine



CNC Milling Machine



Pipe Threading



**CHONG CHEONG
FOUNDRY WORKS PTE LTD**

Contact Us

Please feel free to contact us via e-mail or phone. We will be glad to answer your questions, concerns and/or feedback.

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