BS EN 598:2007 +A1:2009
Ductile Iron Pipe & Fittings
Sewerage applications
球 鐵 排 污 管 及 配 件

06/2021

The Characteristics of Ductile Iron Piping Products

*The Standard For Performance

Since its introduction into the construction, drainage and plumbing industries in the 2000's, Ductile Iron Pipe has been recognized as the industry standard for modern waste water systems. More than ten years of field experience have proved its strength, durability and reliability for installations and services for storm drain, waste and vent piping applications.

*Strength and Durability

Ductile Iron's high degree of dependability is primarily due to its high strength, durability and impact-resistance. Designed and manufactured to the industry's standards, Ductile Iron Pipes and Fittings not only resist damage during transportation and handing, but also withstand the demanding operating conditions once installed.

*Quietness

Ductile Iron is known for quiet operation. Its dense molecular structure helps reducing plumbing noise and thus eliminates the noise complaints commonly existed in other piping materials.

*Ease of Installation

Unlike other piping materials, installation is simple. It can be installed in a wide variety of conditions and can be easily cut on site to suit different working lengths.

*Top Safety

Ductile Iron will not burn, support a fire, or give off toxic fumes. Thus ensures the protection of life and property.

*Environmental Friendliness

Ductile Iron is best known for its 100% recyclability which represents a great savings to our environment.

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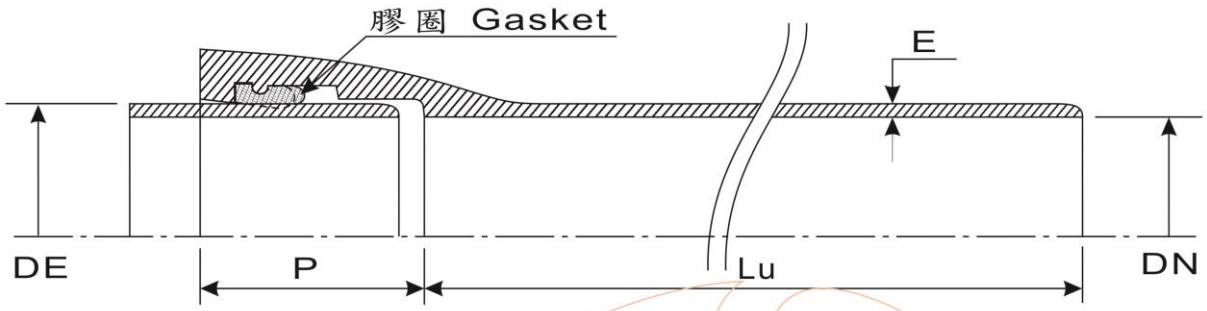
振亞發展有限公司
ASIA DEVELOPMENT (HK) LIMITED

BS EN 598 K9 Ductile Iron Spigot and Socket Pipe with Flexible Joint (for Sewerage)

BS EN 598 K9

承插式柔性膠圈接頭球墨鑄鐵排污管



								*	*	*	*	*	*
Nominal internal diameter 公稱內徑 mm	DN	80	100	150	200	250	300	350	400	450	500	600	700
Pipe 管身													
Nominal external diameter 公稱外徑 mm	DE	98	118	170	222	274	326	378	429	480	532	635	738
Tolerance ±公差		+1/-2.7	+1/-2.8	+1/-2.9	+1/-3.0	+1/-3.1	+1/-3.3	+1/-3.4	+1/-3.5	+1/-3.6	+1/-3.8	+1/-4.0	+1/-4.3
Thickness (nominal) 公稱壁厚 mm	E	4.8	4.8	4.8	4.9	5.3	5.6	6.0	6.3	6.7	7.0	7.7	9.6
Minimum Thickness 最少壁厚 mm		3.5	3.5	3.5	3.6	3.7	4.0	4.3	4.6	4.9	5.2	5.8	7.6
Socket 管套													
Socket Internal depth 管套深度 mm	P	85	88	94	100	105	110	110	110	120	120	120	150
Total Mass of pipe (approx) 約總重 kg		77	95	144	194	255	323	403	482	574	669	883	1126
Effective length of pipe 有效長度	Lu	6 M	6 M	6 M	6 M	6 M	6 M	6 M	6 M	6 M	6 M	6 M	6 M

* Made to order.

National annex NA(informative)

Significant changes from BS 4772

This British Standard is one of the three new application standards for ductile iron pipelines which have been developed by CEN, the other standards being BS EN 545 (water application) and BS EN 969 (gas / sewerage supply). This standard replaces BS 4772 : 1988 in respect of sewerage applications, and with the publication of all three application standards as British Standards, BS 4772 will be withdrawn.

This annex has been written to identify the most significant changes from BS 4772 that have been adopted in BS EN 598 and it is not intended to contradict nor replace any of the clauses or provisions in BS EN 598.

This British Standard is the UK implementation of BS EN 598 : 2007+A1 : 2009. It supersedes BS EN 598 :2007 which is withdrawn.

Specification:

The Pipes and Fittings are supplied with internal lining of cement / high alumina cement mortar.

Externally coated metallic zinc (130g/m²) & Bitumen (70um) in according to ISO 8179.

The Flexible Joints for DI pipes and fittings are designed according to the requirement from HKSAR, which is including sufficient axial movement where the allowable spigot withdrawal of minimum 38mm and minimum angular deflection of 4°

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BS EN 598 K9 Ductile Iron Spigot and Socket Pipe with Flexible Joint (for Sewerage)

BS EN 598 K9

承插式柔性膠圈接頭球墨鑄鐵排污管

Pipe - Test Report 管證書

Straightness

CASTCO 佳力高試驗中心有限公司 CASTCO TESTING CENTRE LIMITED

Test Report
Determination of Straightness of Ductile Iron Pipes, Fittings, Accessories and Their Joints for Sewerage Applications
[BS EN 598 : 2007+A1 : 2009 clause 4.2.4]

Date of issue : 17 April 2018
Page 1 of 1 page(s) Castco LRN : DP0180104-096 ST

Details as supplied by customer:-
Customer : TPY Ltd. Customer's Ref. No. : --
Address : G/F., No. 120, Tung Tau Tsuen, Shap Pat Heung, Yeun Long, N.T. Hong Kong Contract No. : --
Job title : --
Sample Description :-
Sample I.D. : -- Type : Pipe (Centrifugally Cast with Flexible Joint)
Nominal size (DN) : 100 Nominal length : 6000 mm
Brand : Manufacturer : TPY Ltd.,

Laboratory test results:-

Date sample received : 04 January 2018 Date of test : 15 January 2018

Measured straightness of ductile iron pipe	0.45 mm

Remark :
1. Test result relate only to the specimens tested.
2. Test results complies with Clause 4.2.4 of BS EN 598 : 2007 + A1 : 2009.

Checked by : SIT KWAN NING Certified by : LEE WAI KWOK

End of Report

Brinell Hardness

CASTCO 佳力高試驗中心有限公司 CASTCO TESTING CENTRE LIMITED

Test Report
Brinell Hardness Test of Ductile Iron Pipes, Fittings and Accessories for Sewerage Applications
[BS EN 598 : 2007 + A1 : 2009 Clause 4.3.2]

Date of issue : 17 April 2018
Page 1 of 1 page(s) Castco LRN : DP0180104-096 3H

Details as supplied by customer:-
Customer : TPY Ltd. Customer's Ref. No. : --
Address : G/F., No. 120, Tung Tau Tsuen, Shap Pat Heung, Yeun Long, N.T. Hong Kong Contract no.: --
Job title : --
Sample description :-
Sample I.D. : -- Type : Pipe (Centrifugally Cast with Flexible Joint)
Nominal size (DN) 100 Manufacturer : TPY Ltd.
Class : K9 Brand :
Origin : China

Brinell hardness testing machine Machine type : 布氏硬度計HB-3000B Series No. : 0125 (BH01)
Cert. No. : CL0170518-12 I.D. No. : NDT-HB-01
Calipers I.D. No. : NDT-HB-007

Laboratory test results:-
Date of received : 04 January 2018 Date of test : 26 January 2018
Test specimen thickness : 5.65 mm Test temperature : 21 °C

Sketch of test locations

1 ○ 2 ○ 3 ○

Indentation no.	Indentation diameter (2 directions) (mm)		Indentation means (mm)	Corresponding hardness value (HB)	Results
1	4.55	4.64	4.60	170	C
2	4.71	4.72	4.72	161	C
3	4.68	4.76	4.72	161	C

Remark : 1. Test results relates only to the specimen tested.
2. Test results of the sample coloply with the requirement of BS EN 598 : 2007 + A1 : 2009.

Checked by : SIT KWAN NING Laboratory Supervisor Certified by : LEE WAI KWOK B.Sc., C. Eng., MICE, MHKIE Registered Professional Engineer Executive Director

End of Report

Form No. : PIPE/BH01062009_T dd 15/10/2015 /10

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End of Report

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Leaktightness

CASTCO 佳力高試驗中心有限公司 CASTCO TESTING CENTRE LIMITED

Test Report
Work Leaktightness Test of Ductile Iron Pipes, fittings, accessories and their joints for water pipelines
[In accordance to EN598: 2007 + A1 : 2009 Clause 4.7]

Date of issue : 17 April 2018
Page 1 of 1 page Castco LRN : DP0180104-096 HYD

Details as supplied by customer:-
Customer : TPY Ltd. Customer's ref. no.: --
Address : G/F., No. 120, Tung Tau Tsuen, Shap Pat Heung, Yeun Long, N.T. Hong Kong
Contract No. : -- Job title : --
Description of Pipe : -
Nominal size (DN) : 100 Length : 6000mm
Brand name : Manufacturer : TPY Ltd.
Pressure testing type : Pipe (Centrifugally Cast with Flexible Joint)
Delivery date: --

Laboratory Test Result
Date of sample received : 04 January 2018 Date of test : 15 January 2018

Specimen no.		DP0180104-096
Testing temperature		20.0 °C
Pressure amplitude maintained		32 bar
Actual testing time	Time start	0 sec.
	Time end	15 sec.
	Time interval	15 sec.
Any leakage during the test		No
Compliance		C

Notes : Test sample shall withstand the internal pressure without any leakage to EN598 : 1995.
Legends : C - Comply with EN598 : 2007 + A1 : 2009.
F - Fail to comply with EN598 : 2007 + A1 : 2009.
Remarks : 1. Test results relate only to the specimen tested.
2. Test results of the sample comply with the requirement of BS EN 598 : 2007 + A1 : 2009 Clause 4.7.

Checked by : SIT KWAN NING Laboratory Supervisor Certified by : LEE WAI KWOK B.Sc., C. Eng., MICE, MHKIE Registered Professional Engineer Executive Director

End of Report

Form No. : PIPE/DUCTION WLT/04062009_T dd 15/10/2015 /10

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3

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BS EN 598 Ductile Iron All Socket Fitting With Flexible Joint. (For Sewerage)
BS EN 598
全疏杰柔性膠圈接頭球墨鑄鐵排污配件

Pipe - Test Report 管證書

Tensile

CASTCO 佳力高試驗中心有限公司 CASTCO TESTING CENTRE LIMITED
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E-mail: info@castco.com.hk Website: www.castco.com.hk

Test Report
Tensile Test of Ductile Cast Iron
[BSEN 598 : 2007 + A1 : 2009 Clause 4.3.1]

Date of issue : 17 April 2018
Page 1 of 1 page
Castco LRN : DP0180104-096 TEN

Details as supplied by customer:-
Customer : TPY Ltd.
Address : G/F., No. 120, Tung Tau Tsuen, Shap Pat Heung, Yeun Long, N.T. Hong Kong
Job title : --
Sample Description : DN100 x 6.0m Length Ductile Iron Pipe
Grade : K9
Manufacturer : TPY Ltd.,
Acceptance standard: BS EN598 : 2007 + A1 : 2009 Clause 4.3.1
Customer Ref. No. : --
Contract no.: --
Brand name:
Origin : China

Laboratory test result:-
Date received : 04 January 2018
Date tested : 15 February 2018

Specimen Mark	Material designation		Gauge dia.	Cross-sect. Area,	Original gauge length,	Final gauge length,	0.2% Proof stress		Tensile Load		Elongation %	Compliance
	Symbol	Number	(mm)	(mm^2)	(mm)	(mm)	(kN)	(MPa)	(kN)	(MPa)		
DP0180104-096	--	--	5.15	20.8	40	44			9.2	443	10	C

Remarks :-
1. Legends : C - comply with acceptance standard. F - fail to comply with acceptance standard
2. Test results relate to the specimen tested only.
3. Test results of the sample comply with requirement of BSEN 598 : 2007 + A1 : 2009 Clause 4.3.1.

Checked by : SIT KWAN NING Laboratory Supervisor
Certified by : LEE WAI KWOK B.Sc., C. Eng., MICE, MHKIE Registered Professional Engineer Executive Director
End of Report

Form No. STL/DG/CTCASTTEN598(2009)/T dd 15/10/2015 /18

Surface Condition

CASTCO 佳力高試驗中心有限公司 CASTCO TESTING CENTRE LIMITED

Test Report
Surface Condition Test for Ductile Iron Pipes, Fittings, Accessories and Their Joints for Sewerage Application
[BS EN 598 : 2007+A1 : 2009 clause 4.1.2]

Date of issue : 17 April 2018
Page 1 of 1 page(s)
Castco LRN : DP0180104-096 SC

Details as supplied by customer:-
Customer : TPY Ltd.
Address : G/F., No. 120, Tung Tau Tsuen, Shap Pat Heung, Yeun Long, N.T. Hong Kong
Job title : --
Sample Description :-
Sample I.D. : --
Nominal size (DN) : 100
Manufacturer : TPY Ltd.
Origin : China
Customer's Ref. No. : --
Contract No. : --
Type : Pipe (Centrifugally Cast with Flexible Joint)
Nominal length : 6000 mm
Brand :

Laboratory test result:-
Date sample received : 04 January 2018
Date of test : 15 January 2018

The external surface condition of test sample is free from defect and surface imperfections.

Remark :
1. Test result relate only to the specimens tested.
2. Test results complies with Clause 4.1.2 of BS EN 598 : 2007 + A1 : 2009.

Checked by : SIT KWAN NING Laboratory Supervisor
Certified by : LEE WAI KWOK B.Sc., C. Eng., MICE, MHKIE Registered Professional Engineer Executive Director
End of Report

Form No. PIPE SC598(2009)_T dd 15/10/2015 /18

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Dimension

CASTCO 佳力高試驗中心有限公司 CASTCO TESTING CENTRE LIMITED

Test Report
Method for Determination of Dimensions of Ductile iron Pipes, Fittings, Accessories and Their Joints for Sewage Applications
(BS EN 598 : 2007 + A1 : 2009 Clause 4.2 & Clause 4.4.3)

Date of issue : 17 April 2018
Page 1 of 1 page(s)
Castco LRN : DP0180104-096 DIM

Details as supplied by customer:-
Customer : TPY Ltd.
Address : G/F., No. 120, Tung Tau Tsuen, Shap Pat Heung, Yeun Long, N.T. Hong Kong
Contract No. : --
Job title : --
Description of :
Nominal bore : 100 mm
Brand name :
Delivery date : --
Customer's ref. no.: --
Length : 6000mm
Type : Pipe (Centrifugally Cast with Flexible Joint)
Manufacturer : TPY Ltd.
Origin : China

Laboratory Test Result
Date sample received : 04 January 2018
Date of test : 15 January 2018
Sample I.D. : DP0180104-096

Nominal size DN : 100		Test result	BS EN requirement	Customer requirement
External diameter (e)	(mm)	118.3	118(+1 / -2.8)	--
Ovality spigot of external diameter	(%)	0.6	≤ 2.8	--
Thickness (w)	(mm)	4.31	4.8 (-1.3)	--
Internal diameter	(mm)	109.7	100 (-10)	--
Length	(mm)	6020	6000 (±100)	--
Measured thickness of cement mortar lining	(mm)	6.08	4 (-1.5)	--

Remarks : 1. Test results relates only to the specimen tested.
2. Test results of the sample comply with the requirement of BS EN 598 : 2007 + A1 : 2009 Clause 4.2 & Clause 4.4.3.

Checked by : SIT KWAN NING Laboratory Supervisor
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End of Report

Form No. PIPE DIM598(2009)_T dd15/10/2015 /18

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