



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

45° Equal / Unequal Branch & 90° Equal / Unequal Branch



祥興鑄鐵有限公司

CHEUNG HING FOUNDRY (HK) LIMITED



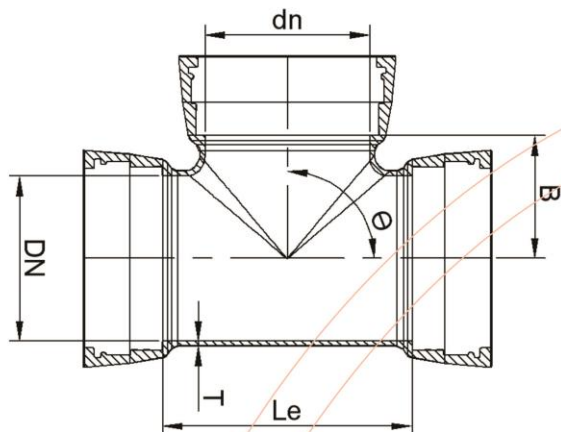
# BS EN 598 Ductile Iron All Socket Fitting With Flexible Joint. (For Sewerage)

BS EN 598

全疏杰柔性膠圈接頭球墨鑄鐵排污配件

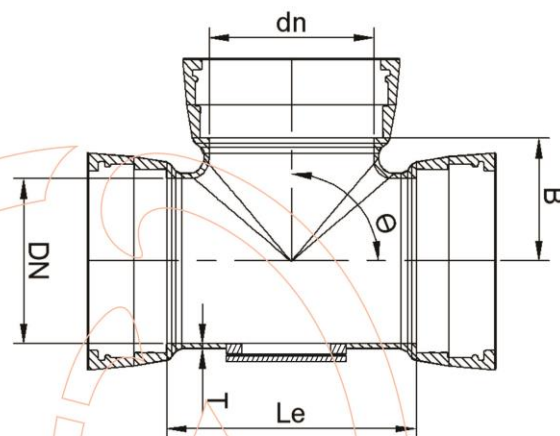
## 90° Equal Branch

90°等徑叉



## 90° Equal Branch with Access door

90°等徑正口叉



## 90° Equal Branch - Test Report 90°等徑叉證書

### Leaktightness

| Size  | DN  | Dn  | Le  | B   | T    | θ  |
|-------|-----|-----|-----|-----|------|----|
| mm    | mm  | mm  | mm  | mm  | mm   | mm |
| 80    | 80  | 80  | 170 | 85  | 7.0  | 90 |
| 100   | 100 | 100 | 190 | 95  | 7.2  | 90 |
| 150   | 150 | 150 | 255 | 125 | 7.8  | 90 |
| 200   | 200 | 200 | 315 | 155 | 8.4  | 90 |
| 250   | 250 | 250 | 375 | 230 | 9.0  | 90 |
| 300   | 300 | 300 | 435 | 260 | 9.6  | 90 |
| * 350 | 350 | 350 | 495 | 290 | 10.2 | 90 |
| * 400 | 400 | 400 | 560 | 320 | 10.8 | 90 |
| * 450 | 450 | 450 | 620 | 350 | 11.4 | 90 |
| * 500 | 500 | 500 | 680 | 380 | 12.0 | 90 |
| * 600 | 600 | 600 | 800 | 440 | 13.2 | 90 |
| * 700 | 700 | 700 | 925 | 500 | 14.4 | 90 |

**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 : 02 June 2017  
Page 1 of 1 page  
Castco LRN: DP0170428-161

*Details as supplied by customer:*  
Customer: TPY Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shek Pat Heung, Yuen Long, N.T.  
Contract no.: --  
Job title: --  
Customer's ref. no.: --

Description of fitting: --  
Nominal size (DN): 100 x 100  
Length: --  
Brand name: Manufacturer: TPY Limited  
Pressure testing type: Fitting (All Socket Tee with 90 Degree Equal Branch)

Delivery date: --  
Origin: China

**Laboratory Test Result**  
Date of sample received: 28 April 2017  
Date of test: 06 May 2017

|                               |                                                                   |
|-------------------------------|-------------------------------------------------------------------|
| Specimen no.                  | DP0170428-161                                                     |
| Testing temperature           | 20.0 °C                                                           |
| Pressure amplitude maintained | 25 bar                                                            |
| Actual testing time           | Time start: 0 sec.<br>Time end: 15 sec.<br>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.  
Results refer only to the specimen tested.  
The sample comply with the requirement of BS EN 598 : 2007 + A1 : 2009 Clause 4.7.

Certified by:   
WONG KA MAN  
Senior Manager

End of Report

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29A, On Chuen Street, Fanling, Hong Kong. Fax: 2597 8399  
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\* and all Items with access door made to order.

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祥興鑄鐵有限公司

CHEUNG HING FOUNDRY (HK) LIMITED





# 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

## 90° Equal Branch - Test Report 90°等徑叉證書

### Brinell Hardness

### Dimension



### Surface Condition

**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 Application  
[BS EN 598 : 2007 + A1 : 2009 Clause 4.3.2]

Date of issue: 02 June 2017  
Page 1 of 1 page(s)  
Castco LRN: DP0170428-161

**Details as supplied by customer:**  
Customer: TPY Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Job title: --  
Contract No.: --  
Sample description: --  
Sample I.D.: --  
Nominal size (DN): 100 x 100  
Class: --  
Origin: China  
Type: Fitting (All Socket Tee with 90 Degree Equal Branch)  
Manufacturer: TPY Limited  
Brand:   
Brinell hardness testing machine: Machine type: 測試硬機HB-3000B Series No.: 0125 (0401)  
Cert. No.: CL0170518-12 I.D. No.: NDT-HB-01  
Calipers: I.D. No.: NDT-HB-007

**Laboratory test results:**  
Date of received: 28 April 2017  
Test specimen thickness: 5.07 mm  
Date of test: 24 May 2017  
Test temperature: 26 °C

**Sketch of test locations**

| Indentation no. | Indentation diameter (2 directions) (mm) | Indentation means (mm) | Corresponding hardness value (HB) | Results |
|-----------------|------------------------------------------|------------------------|-----------------------------------|---------|
| 1               | 4.64                                     | 4.64                   | 167                               | C       |
| 2               | 4.97                                     | 4.95                   | 145                               | C       |
| 3               | 4.56                                     | 4.56                   | 174                               | C       |

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

Checked by:   
Certified by:   
WONG KA MAN Senior Manager

香港粉嶺安基街33號 33, On Kwi Street, Fanling, Hong Kong Tel: 2597 8333  
香港粉嶺安基街29A號 29A, On Chuen Street, Fanling, Hong Kong Fax: 2597 8399  
E-mail: info@castco.com.hk Website: www.castco.com.hk

**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 Sewerage Applications  
[BS EN 598 : 2007 + A1 : 2009 Clause 4.2 & Clause 4.4.3]

Date of issue: 06 July 2017  
Page 1A of 2 page(s)  
Castco LRN: DP0170428-161 DIM

**Details as supplied by customer:**  
Customer: TPY Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Job title: --  
Contract no.: --  
Description of: --  
Nominal bore: 100 x 100 mm  
Length: --  
Brand name:   
Type: Fitting (All Socket Tee with 90 Degree Equal Branch)  
Delivery date: --  
Manufacturer: TPY Limited  
Origin: China

**Laboratory Test Result**  
Date sample received: 28 April 2017  
Date of test: 05 May 2017  
Specimen no.: DP0170428-161

| Nominal size DN: 100 x 100                      | Test result | BS EN requirement | Customer requirement |
|-------------------------------------------------|-------------|-------------------|----------------------|
| External diameter (e) (mm)                      |             |                   |                      |
| Orality spigot of external diameter (mm)        |             |                   |                      |
| Thickness (T) (mm)                              | 7.23        | 7.2 (-/-)         | 7.2                  |
| Internal diameter (mm)                          |             |                   |                      |
| Length (B) (mm)                                 | 110         | 95 (+50/-25)      | 95                   |
| Length (Lc) (mm)                                | 180         | 190 (+50/-25)     | 190                  |
| Measured thickness of cement mortar lining (mm) | 6.65        | ≥2.5              | --                   |

Remarks: 1. Test results relate only to the specimens 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.  
3. This page no. 1A of test report supersedes page no.1 of the previous test report of Castco Lab. Ref: No-DP0170428-161 issued on 02/06/2017.

Checked by:   
Certified by:   
WONG KA MAN Senior Manager

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香港粉嶺安基街29A號 29A, On Chuen Street, Fanling, Hong Kong Fax: 2597 8399  
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### Tensile

**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: 02 June 2017  
Page 1 of 1 page(s)  
Castco LRN: DP0170428-61 SC

**Details as supplied by customer:**  
Customer: TPY Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Job title: --  
Contract No.: --  
Sample description: --  
Sample I.D.: --  
Nominal size (DN): 100 x 100  
Manufacturer: TPY Limited  
Brand:   
Origin: China  
Type: Fitting (All Socket Tee with 90 Degree Equal Branch)  
Nominal length: --

**Laboratory test results:**  
Date sample received: 28 April 2017  
Date of test: 05 May 2017

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

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

Checked by:   
Certified by:   
WONG KA MAN Senior Manager

香港粉嶺安基街33號 33, On Kwi Street, Fanling, Hong Kong Tel: 2597 8333  
香港粉嶺安基街29A號 29A, On Chuen Street, Fanling, Hong Kong Fax: 2597 8399  
E-mail: info@castco.com.hk Website: www.castco.com.hk

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

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

Date of issue: 02 June 2017  
Page 1 of 1 page  
Castco LRN: DP0170428-161 TEN

**Details as supplied by customer:**  
Customer: TPY Limited  
Job title: --  
Sample description: DN100 x 100 All Socket Tee with 90 Degree Equal Branch  
Grade: --  
Manufacturer: TPY Limited  
Acceptance standard: BS EN 598 : 2007 + A1 : 2009 Clause 4.3.1  
Brand:   
Origin: China

**Laboratory test results:**  
Date received: 28 April 2017  
Date tested: 26 May 2017

| Specimen Mark | Material designation |        | Gauge dia. (mm) | Cross-sect. area (mm²) | Original gauge length (mm) | Final gauge length (mm) | 0.2% Proof stress (kN) (MPa) | Tensile Load (kN) (MPa) | Elongation % | Compliance |
|---------------|----------------------|--------|-----------------|------------------------|----------------------------|-------------------------|------------------------------|-------------------------|--------------|------------|
|               | Symbol               | Number |                 |                        |                            |                         |                              |                         |              |            |
| DP0170428-161 |                      |        | 3.38            | 8.9                    | 40                         | 46                      | 4.1                          | 458                     | 15           | 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 fail to comply with requirement of BS EN 598 : 2007 + A1 : 2009 Clause 4.3.1.

Checked by:   
Certified by:   
WONG KA MAN Senior Manager

香港粉嶺安基街33號 33, On Kwi Street, Fanling, Hong Kong Tel: 2597 8333  
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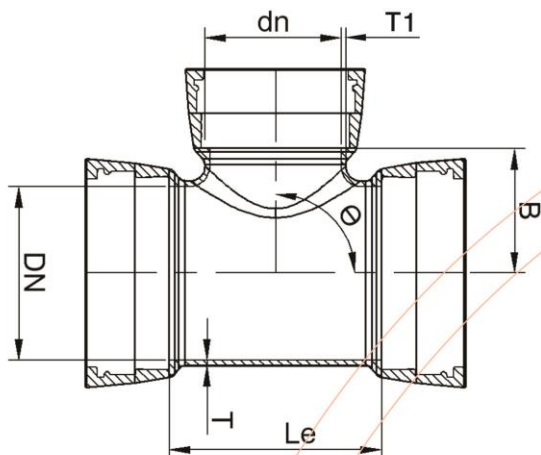
# BS EN 598 Ductile Iron All Socket Fitting With Flexible Joint. (For Sewerage)

BS EN 598

全疏杰柔性膠圈接頭球墨鑄鐵排污配件

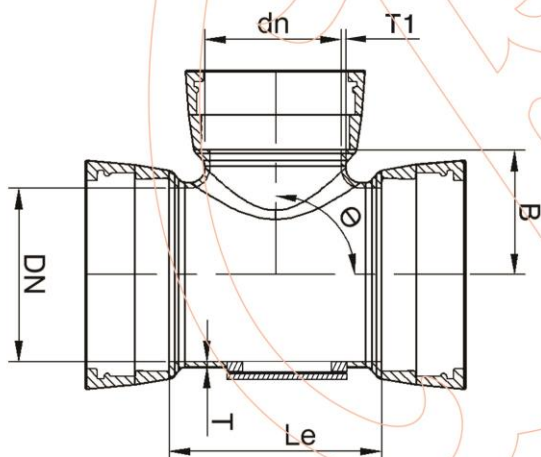
## 90° Unequal Branch

90°異徑叉



## 90° Unequal Branch With Access door

90°異徑正口叉



| Size<br>mm | DN<br>mm | dn<br>mm | Le<br>mm | B<br>mm | T<br>mm | t1<br>mm | θ<br>mm |
|------------|----------|----------|----------|---------|---------|----------|---------|
| 100X80     | 100      | 80       | 170      | 95      | 7.2     | 7.0      | 90      |
| * 150X80   | 150      | 80       | 170      | 120     | 7.8     | 7.0      | 90      |
| 150X100    | 150      | 100      | 195      | 120     | 7.8     | 7.2      | 90      |
| * 200X80   | 200      | 80       | 175      | 145     | 8.4     | 7.0      | 90      |
| * 200X100  | 200      | 100      | 200      | 145     | 8.4     | 7.2      | 90      |
| 200X150    | 200      | 150      | 255      | 150     | 8.4     | 7.8      | 90      |
| * 250X80   | 250      | 80       | 200      | 210     | 9.0     | 7.0      | 90      |
| * 250X100  | 250      | 100      | 200      | 235     | 9.0     | 7.2      | 90      |
| * 250X150  | 250      | 150      | 255      | 220     | 9.0     | 7.8      | 90      |
| 250X200    | 250      | 200      | 315      | 225     | 9.0     | 8.4      | 90      |
| * 300X80   | 300      | 80       | 205      | 235     | 9.6     | 7.0      | 90      |
| * 300X100  | 300      | 100      | 205      | 235     | 9.6     | 7.2      | 90      |
| * 300X150  | 300      | 150      | 260      | 240     | 9.6     | 7.8      | 90      |
| * 300X200  | 300      | 200      | 320      | 245     | 9.6     | 8.4      | 90      |
| 300X250    | 300      | 250      | 375      | 250     | 9.6     | 9.0      | 90      |
| * 350X100  | 350      | 100      | 205      | 260     | 10.2    | 7.2      | 90      |
| * 350X150  | 350      | 150      | 260      | 265     | 10.2    | 7.8      | 90      |
| * 350X200  | 350      | 200      | 325      | 270     | 10.2    | 8.4      | 90      |
| * 350X250  | 350      | 250      | 375      | 275     | 10.2    | 9.0      | 90      |
| * 350X300  | 350      | 300      | 435      | 285     | 10.2    | 9.6      | 90      |
| * 400X100  | 400      | 100      | 210      | 285     | 10.8    | 7.2      | 90      |
| * 400X150  | 400      | 150      | 265      | 290     | 10.8    | 7.8      | 90      |
| * 400X200  | 400      | 200      | 325      | 255     | 10.8    | 8.4      | 90      |
| * 400X250  | 400      | 250      | 375      | 300     | 10.8    | 9.0      | 90      |
| * 400X300  | 400      | 300      | 445      | 310     | 10.8    | 9.6      | 90      |
| * 400X350  | 400      | 350      | 495      | 315     | 10.8    | 10.2     | 90      |
| * 450X100  | 450      | 100      | 215      | 320     | 11.4    | 7.2      | 90      |
| * 450X150  | 450      | 150      | 270      | 320     | 11.4    | 7.8      | 90      |
| * 450X200  | 450      | 200      | 325      | 320     | 11.4    | 8.4      | 90      |
| * 450X250  | 450      | 250      | 375      | 325     | 11.4    | 9.0      | 90      |
| * 450X300  | 450      | 300      | 445      | 335     | 11.4    | 9.6      | 90      |
| * 450X350  | 450      | 350      | 495      | 340     | 11.4    | 10.2     | 90      |
| * 450X400  | 450      | 400      | 560      | 345     | 11.4    | 10.8     | 90      |
| * 500X100  | 500      | 100      | 215      | 345     | 12.0    | 7.2      | 90      |
| * 500X150  | 500      | 150      | 275      | 345     | 12.0    | 7.8      | 90      |
| * 500X200  | 500      | 200      | 330      | 345     | 12.0    | 8.4      | 90      |
| * 500X250  | 500      | 250      | 380      | 350     | 12.0    | 9.0      | 90      |
| * 500X300  | 500      | 300      | 450      | 360     | 12.0    | 9.6      | 90      |
| * 500X350  | 500      | 350      | 500      | 365     | 12.0    | 10.2     | 90      |
| * 500X400  | 500      | 400      | 565      | 370     | 12.0    | 10.8     | 90      |
| * 500X450  | 500      | 450      | 620      | 375     | 12.0    | 11.4     | 90      |
| * 600X100  | 600      | 100      | 220      | 395     | 13.2    | 7.2      | 90      |
| * 600X150  | 600      | 150      | 385      | 395     | 13.2    | 7.8      | 90      |
| * 600X200  | 600      | 200      | 340      | 395     | 13.2    | 8.4      | 90      |
| * 600X250  | 600      | 250      | 380      | 400     | 13.2    | 9.0      | 90      |
| * 600X300  | 600      | 300      | 455      | 410     | 13.2    | 9.6      | 90      |
| * 600X350  | 600      | 350      | 500      | 415     | 13.2    | 10.2     | 90      |
| * 600X400  | 600      | 400      | 570      | 420     | 13.2    | 10.8     | 90      |
| * 600X450  | 600      | 450      | 620      | 425     | 13.2    | 11.4     | 90      |
| * 600X500  | 600      | 500      | 685      | 430     | 13.2    | 12.0     | 90      |

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祥興鑄鐵有限公司

CHEUNG HING FOUNDRY (HK) LIMITED





# 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

### 90° Unequal Branch - Test Report 90°異徑叉證書

#### Brinell Hardness

#### Dimension



**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: 02 June 2017  
Page 1 of 1 page(s)  
Castco LRN: DP0170428-156

**Details as supplied by customer:**  
Customer: TPY Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Job title: --  
Sample description: --  
Sample I.D.: --  
Nominal Size (DN): 150 x 100  
Class: --  
Origin: China  
Type: Fitting (All Socket Tee with 90 Degree Unequal Branch)  
Manufacturer: TPY Limited  
Brand:   
Brinell hardness testing machine: Machine type: 布氏硬度計HB-3000B Series No.: 0125 (BH01)  
Cert. No.: CLO70518-12 I.D. No.: NDT-HB-01  
Calipers: --  
Laboratory test results: Date of received: 28 April 2017 Date of test: 24 May 2017  
Test specimen thickness: 4.91 mm Test temperature: 26 °C  
Sketch of test locations:

| Indentation no. | Indentation diameter (2 directions) (mm) | Indentation means (mm) | Corresponding hardness value (HB) | Results |
|-----------------|------------------------------------------|------------------------|-----------------------------------|---------|
| 1               | 4.44                                     | 4.43                   | 184                               | C       |
| 2               | 4.44                                     | 4.43                   | 184                               | C       |
| 3               | 4.44                                     | 4.44                   | 184                               | C       |

**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 Sewerage Applications  
[BS EN 598: 2007 + A1: 2009 Clause 4.2 & Clause 4.4.3]

Date of issue: 06 July 2017  
Page 1A of 2/ page(s)  
Castco LRN: DP0170428-156 DIM

**Details as supplied by customer:**  
Customer: TPY Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Contract no.: --  
Job title: --  
Description of: --  
Nominal bore: 150 x 100 mm  
Length: --  
Brand name:   
Type: Fitting (All Socket Tee with 90 Degree Unequal Branch)  
Delivery date: --  
Manufacturer: TPY Limited  
Origin: China

**Laboratory Test Result**  
Date sample received: 28 April 2017 Date of test: 05 May 2017  
Specimen no.: DP0170428-156

| Notional size DN: 150 x 100                     | Test result | BS EN requirement | Customer requirement |
|-------------------------------------------------|-------------|-------------------|----------------------|
| External diameter (e) (mm)                      |             |                   |                      |
| Orality spigot of external diameter (mm)        |             |                   |                      |
| Thickness (T) (mm)                              | 7.83        | 7.8 (-2.45)       | 7.8                  |
| (T1) (mm)                                       | 7.46        | 7.2 (-2.4)        | 7.2                  |
| Internal diameter (mm)                          |             |                   |                      |
| Length (B) (mm)                                 | 125         | 120 (+50/-25)     | 120                  |
| Length (Le) (mm)                                | 181         | 195 (+50/-25)     | 195                  |
| Measured thickness of cement mortar lining (mm) | 4.87        | ≥2.5              | --                   |

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.  
3. This page no. 1A of test report supersedes page no. 1 of the previous test report of Castco Lab Ref. No. DP0170428-156 issued on 02/06/2017.

Checked by:   
SIT KWAN NING  
Laboratory Supervisor  
WONG KA MAN  
Senior Manager

#### Leaktightness

**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: 02 June 2017  
Page 1 of 1 page(s)  
Castco LRN: DP0170428-156 BH1

**Details as supplied by customer:**  
Customer: TPY Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Job title: --  
Sample description: --  
Sample I.D.: --  
Nominal Size (DN): 150 x 100  
Class: --  
Origin: China  
Type: Fitting (All Socket Tee with 90 Degree Unequal Branch)  
Manufacturer: TPY Limited  
Brand:   
Brinell hardness testing machine: Machine type: 布氏硬度計HB-3000B Series No.: 0125 (BH01)  
Cert. No.: CLO70518-12 I.D. No.: NDT-HB-01  
Calipers: --  
Laboratory test results: Date of received: 28 April 2017 Date of test: 24 May 2017  
Test specimen thickness: 4.91 mm Test temperature: 26 °C  
Sketch of test locations:

| Indentation no. | Indentation diameter (2 directions) (mm) | Indentation means (mm) | Corresponding hardness value (HB) |
|-----------------|------------------------------------------|------------------------|-----------------------------------|
| 1               | 4.44                                     | 4.43                   | 184                               |
| 2               | 4.44                                     | 4.43                   | 184                               |
| 3               | 4.44                                     | 4.44                   | 184                               |

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

Checked by:   
SIT KWAN NING  
Laboratory Supervisor  
WONG KA MAN  
Senior Manager

#### Tensile

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

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

Date of issue: 02 June 2017  
Page 1 of 1 page  
Castco LRN: DP0170428-156 TEN

**Details as supplied by customer:**  
Customer: TPY Limited  
Job title: --  
Sample Description: DN150 x 100 All Socket Tee with 90 Degree Unequal Branch  
Grade: --  
Manufacturer: TPY Limited  
Acceptance standard: BS EN 598: 2007 + A1: 2009 Clause 4.3.1  
Brand:   
Origin: China

**Laboratory test results:**  
Date received: 28 April 2017 Date tested: 26 May 2017

| Specimen Mark | Material designation | Gauge dia. (mm) | Cross-sect. area (mm²) | Original gauge length (mm) | Final gauge length (mm) | 0.2% Proof stress (kN) (MPa) | Tensile Load (kN) (MPa) | Elongation % | Compliance |
|---------------|----------------------|-----------------|------------------------|----------------------------|-------------------------|------------------------------|-------------------------|--------------|------------|
| DP0170428-156 |                      | 5.07            | 20.2                   | 40                         | 47                      | 10.3                         | 510                     | 18           | 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 fail to comply with requirement of BS EN 598: 2007 + A1: 2009 Clause 4.3.1.

Checked by:   
SIT KWAN NING  
Laboratory Supervisor  
WONG KA MAN  
Senior Manager

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CHEUNG HING FOUNDRY (HK) LIMITED



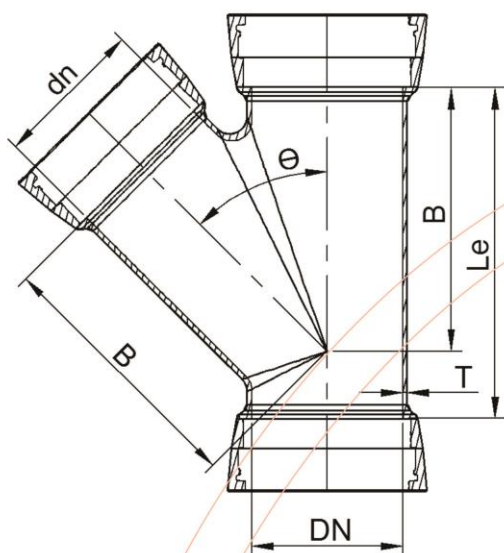
# BS EN 598 Ductile Iron All Socket Fitting With Flexible Joint. (For Sewerage)

BS EN 598

全疏杰柔性膠圈接頭球墨鑄鐵排污配件

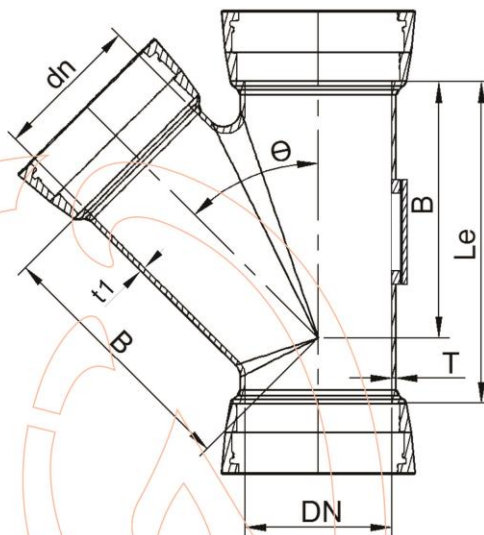
## 45° Equal Branch

45°等徑叉



## 45° Equal Branch with Access door

45°等徑正口叉



## 45° Equal Branch - Test Report 45°等徑叉證書

### Leaktightness

| Size  | DN  | dn  | Le   | B    | T    | θ  |
|-------|-----|-----|------|------|------|----|
| mm    | mm  | mm  | mm   | mm   | mm   | mm |
| 80    | 80  | 80  | 290  | 215  | 8.1  | 45 |
| 100   | 100 | 100 | 320  | 240  | 8.4  | 45 |
| 150   | 150 | 150 | 390  | 300  | 9.1  | 45 |
| 200   | 200 | 200 | 460  | 360  | 9.6  | 45 |
| 250   | 250 | 250 | 530  | 420  | 10.5 | 45 |
| 300   | 300 | 300 | 600  | 480  | 11.2 | 45 |
| * 350 | 350 | 350 | 730  | 550  | 11.9 | 45 |
| * 400 | 400 | 400 | 800  | 640  | 12.5 | 45 |
| * 450 | 450 | 450 | 875  | 700  | 13.3 | 45 |
| * 500 | 500 | 500 | 940  | 760  | 14.0 | 45 |
| * 600 | 600 | 600 | 1080 | 880  | 15.4 | 45 |
| * 700 | 700 | 700 | 1220 | 1000 | 16.6 | 45 |

**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 : 02 June 2017  
Page : 1 of 1 page  
Details as supplied by customer:  
Customer: TPY Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Contract no.:  
Job title: --

Castco LRN: DP0170428-167 HYD  
Customer's ref. no.: --

Description of fitting: --  
Nominal size (DN): 100 x 100  
Brand name: Length: --  
Manufacturer: TPY Limited  
Pressure testing type: Fitting (All Socket Tee with 45 Degree Equal Branch)

Delivery date: --  
Origin: China

**Laboratory Test Result**  
Date of sample received: 28 April 2017  
Date of test: 06 May 2017

|                               |                                                                   |
|-------------------------------|-------------------------------------------------------------------|
| Specimen no.                  | DP0170428-167                                                     |
| Testing temperature           | 20.0 °C                                                           |
| Pressure amplitude maintained | 25 bar                                                            |
| Actual testing time           | Time start: 0 sec.<br>Time end: 15 sec.<br>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.  
Results refer only to the specimen tested.  
The sample comply with the requirement of BS EN 598 : 2007 + A1 : 2009 Clause 4.7.

Certified by:   
WONG KA MAN  
Senior Manager

End of Report

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祥興鑄鐵有限公司

CHEUNG HING FOUNDRY (HK) LIMITED





# 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

### 45°Equal Branch - Test Report 45°等徑叉證書

#### Brinell Hardness

#### Dimension



**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 Application  
[BS EN 598 : 2007 + A1 : 2009 Clause 4.3.2]

Date of issue: 02 June 2017  
Page 1 of 1 page(s)  
Castco LRN: DP0170428-167

**Details as supplied by customer:**  
Customer: TPV Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Job title: --  
Sample description: --  
Sample I.D.: --  
Nominal size (DN): 100 x 100  
Class: --  
Origin: China  
Type: Fitting (All Socket Tee with 45 Degree Equal Branch)  
Manufacturer: TPV Limited  
Brand:   
Brinell hardness testing machine: Machine type: 布氏硬度計 HB-3000B Series No.: 0125 (0101)  
Cert. No.: CLO70518-12 I.D. No.: NDT-HB-01  
Calipers: --  
Laboratory test results:  
Date of received: 28 April 2017 Date of test: 24 May 2017  
Test specimen thickness: 5.31 mm Test temperature: 26 °C  
Sketch of test locations:

| Indentation no. | Indentation diameter (2 directions) (mm) |      | Indentation means (mm) | Corresponding hardness value (HB) | Result |
|-----------------|------------------------------------------|------|------------------------|-----------------------------------|--------|
| 1               | 4.40                                     | 4.40 | 4.40                   | 187                               | C      |
| 2               | 4.40                                     | 4.41 | 4.41                   | 186                               | C      |
| 3               | 4.40                                     | 4.41 | 4.41                   | 186                               | C      |

**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 Sewerage Applications  
[BS EN 598 : 2007 + A1 : 2009 Clause 4.2 & Clause 4.4.3]

Date of issue: 06 July 2017  
Page 1A of 2 page(s)  
Castco LRN: DP0170428-167 DIM

**Details as supplied by customer:**  
Customer: TPV Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Contract no.: --  
Job title: --  
Description of: --  
Nominal bore: 100 x 100 mm  
Length: --  
Brand name:   
Type: Fitting (All Socket Tee with 45 Degree Equal Branch)  
Delivery date: --  
Manufacturer: TPV Limited  
Origin: China

**Laboratory Test Results**  
Date sample received: 28 April 2017 Date of test: 05 May 2017  
Specimen no.: DP0170428-167

| Nominal size DN: 100 x 100                      | Test result | BS EN requirement | Customer requirement |
|-------------------------------------------------|-------------|-------------------|----------------------|
| External diameter (e) (mm)                      | 110         | 110               | 110                  |
| Orality of joint of external diameter (mm)      | 110         | 110               | 110                  |
| Thickness (T) (mm)                              | 7.79        | 7.2 (<4)          | 7.2                  |
| Internal diameter (mm)                          | 72          | 72                | 72                   |
| Length (B1) (mm)                                | 245         | --                | 240                  |
| Length (B2) (mm)                                | 250         | --                | 240                  |
| Length (Le) (mm)                                | 330         | --                | 320                  |
| Measured thickness of cement mortar lining (mm) | 5.74        | ≥2.5              | --                   |

Remarks:  
1. Test results relate only to the specimen tested.  
2. Compliance check against BS EN 598: 2007+A1:2009 clause 4.2 was not possible as this fitting could not be found in the standard.  
3. This page no. 1A of test report supersedes page no.1 of the previous test report of Castco Lab. Ref. No. DP0170428-167 issued on 02/06/2017.

Checked by:   
SIT KWAN NING  
Senior Manager  
From No. 875, CASTCO TESTING CENTRE LIMITED 7/A1 15/05/2017

Castco LRN: DP0170428-167 DIM

#### 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: 02 June 2017  
Page 1 of 1 page(s)  
Castco LRN: DP0170428-167 SC

**Details as supplied by customer:**  
Customer: TPV Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Job title: --  
Sample Description: --  
Sample I.D.: --  
Nominal size (DN): 100 x 100  
Manufacturer: TPV Limited  
Brand:   
Origin: China  
Type: Fitting (All Socket Tee with 45 Degree Equal Branch)  
Nominal length: --  
Laboratory test results:  
Date sample received: 28 April 2017 Date of test: 05 May 2017  
The external surface condition of test sample is free from defect and surface imperfections.

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

Checked by:   
SIT KWAN NING  
Laboratory Supervisor  
From No. 875, CASTCO TESTING CENTRE LIMITED 7/A1 15/05/2017

End of Report  
Certified by:   
WONG KA MAN  
Senior Manager

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香港粉嶺安基街29A號 29A, On Chuen Street, Fanling, Hong Kong Tel: 2597 8399  
E-mail: info@castco.com.hk Website: www.castco.com.hk

#### Tensile

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

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

Date of issue: 02 June 2017  
Page 1 of 1 page  
Castco LRN: DP0170428-167 TEN

**Details as supplied by customer:**  
Customer: TPV Limited  
Job title: --  
Sample Description: DN100 x 100 All Socket Tee with 45 Degree Equal Branch  
Grade: --  
Manufacturer: TPV Limited  
Acceptance standard: BS EN 598 : 2007 + A1 : 2009 Clause 4.3.1  
Brand:   
Origin: China  
Laboratory test results:  
Date received: 28 April 2017 Date tested: 26 May 2017

| Specimen Mark | Material designation |        | Gauge dia. (mm) | Cross-sect. area (mm²) | Original gauge length (mm) | Final gauge length (mm) | 0.2% Proof stress (kN) (MPa) | Tensile Load (kN) (MPa) | Elongation % | Compliance |
|---------------|----------------------|--------|-----------------|------------------------|----------------------------|-------------------------|------------------------------|-------------------------|--------------|------------|
|               | Symbol               | Number |                 |                        |                            |                         |                              |                         |              |            |
| DP0170428-167 | --                   | --     | 4.97            | 19.4                   | 40                         | 46                      | 10.0                         | 517                     | 15           | C          |

Remarks:  
1. Legends:  
C = comply with acceptance standard.  
F = fail to comply with acceptance standard  
2. Test results relate to the specimens tested only.  
3. Test results fail to comply with requirement of BS EN 598 : 2007 + A1 : 2009 Clause 4.3.1.

Checked by:   
SIT KWAN NING  
Laboratory Supervisor  
From No. 875, CASTCO TESTING CENTRE LIMITED 7/A1 15/05/2017

End of Report  
Certified by:   
WONG KA MAN  
Senior Manager

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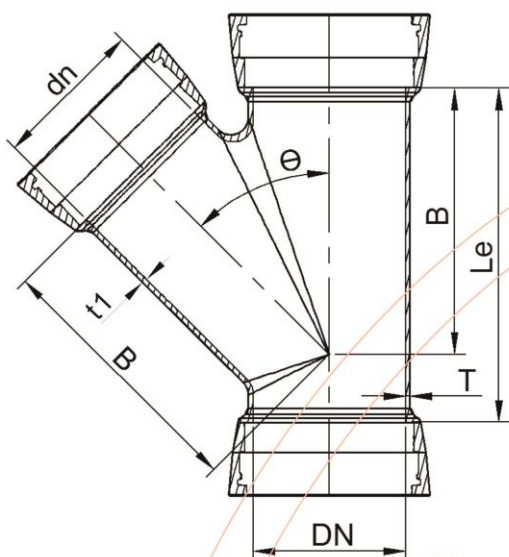
# BS EN 598 Ductile Iron All Socket Fitting With Flexible Joint. (For Sewerage)

BS EN 598

全疏杰柔性膠圈接頭球墨鑄鐵排污配件

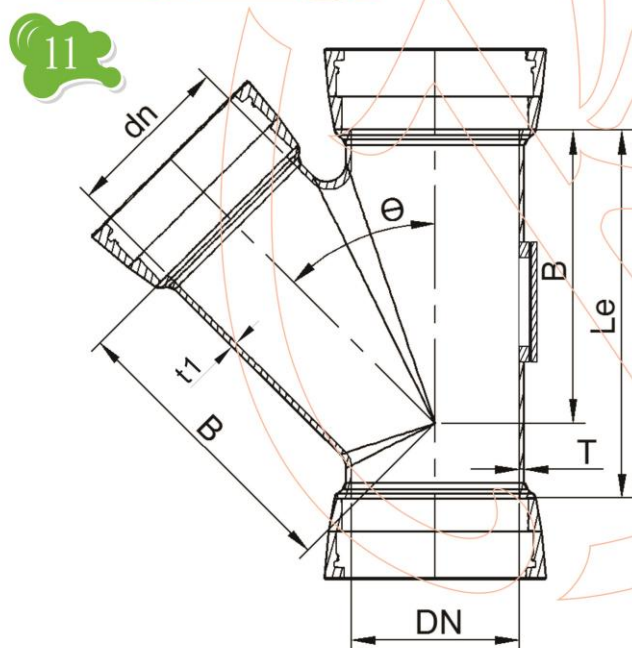
## 45° Unequal Branch

45° 異徑叉



## 45° Unequal Branch With Access door

45° 異徑正口叉



| Size<br>mm | DN<br>mm | dn<br>mm | Le<br>mm | B<br>mm | T<br>mm | t1<br>mm | θ<br>mm |
|------------|----------|----------|----------|---------|---------|----------|---------|
| 100X80     | 100      | 80       | 290      | 225     | 8.4     | 8.1      | 45      |
| 150X80     | 150      | 80       | 290      | 250     | 9.1     | 8.1      | 45      |
| 150X100    | 150      | 100      | 320      | 265     | 9.1     | 8.4      | 45      |
| 200X80     | 200      | 80       | 290      | 275     | 9.8     | 8.1      | 45      |
| 200X100    | 200      | 100      | 320      | 290     | 9.8     | 8.4      | 45      |
| 200X150    | 200      | 150      | 390      | 325     | 9.8     | 9.1      | 45      |
| 250X80     | 250      | 80       | 290      | 300     | 10.5    | 8.1      | 45      |
| 250X100    | 250      | 100      | 320      | 315     | 10.5    | 8.4      | 45      |
| 250X150    | 250      | 150      | 390      | 350     | 10.5    | 9.1      | 45      |
| 250X200    | 250      | 200      | 460      | 385     | 10.5    | 9.8      | 45      |
| 300X80     | 300      | 80       | 290      | 325     | 11.2    | 8.1      | 45      |
| 300X100    | 300      | 100      | 320      | 340     | 11.2    | 8.4      | 45      |
| 300X150    | 300      | 150      | 390      | 375     | 11.2    | 9.1      | 45      |
| 300X200    | 300      | 200      | 460      | 410     | 11.2    | 9.8      | 45      |
| 300X250    | 300      | 250      | 530      | 445     | 11.2    | 10.5     | 45      |
| 350X100    | 350      | 100      | 350      | 405     | 11.9    | 8.4      | 45      |
| 350X150    | 350      | 150      | 450      | 440     | 11.9    | 9.1      | 45      |
| 350X200    | 350      | 200      | 520      | 475     | 11.9    | 9.8      | 45      |
| 350X250    | 350      | 250      | 590      | 510     | 11.9    | 10.5     | 45      |
| 350X300    | 350      | 300      | 730      | 545     | 11.9    | 11.2     | 45      |
| 400X100    | 400      | 100      | 350      | 430     | 12.6    | 8.4      | 45      |
| 400X150    | 400      | 150      | 450      | 465     | 12.6    | 9.1      | 45      |
| 400X200    | 400      | 200      | 520      | 500     | 12.6    | 9.8      | 45      |
| 400X250    | 400      | 250      | 590      | 535     | 12.6    | 10.5     | 45      |
| 400X300    | 400      | 300      | 660      | 570     | 12.6    | 11.2     | 45      |
| 400X350    | 400      | 350      | 730      | 605     | 12.6    | 11.9     | 45      |
| 450X100    | 450      | 100      | 350      | 456     | 13.3    | 8.4      | 45      |
| 450X150    | 450      | 150      | 450      | 490     | 13.3    | 9.1      | 45      |
| 450X200    | 450      | 200      | 520      | 525     | 13.3    | 9.8      | 45      |
| 450X250    | 450      | 250      | 590      | 560     | 13.3    | 10.5     | 45      |
| 450X300    | 450      | 300      | 660      | 590     | 13.3    | 11.2     | 45      |
| 450X350    | 450      | 350      | 730      | 630     | 13.3    | 11.9     | 45      |
| 450X400    | 450      | 400      | 800      | 665     | 13.3    | 12.6     | 45      |
| 500X100    | 500      | 100      | 350      | 480     | 14.0    | 8.4      | 45      |
| 500X150    | 500      | 150      | 450      | 515     | 14.0    | 9.1      | 45      |
| 500X200    | 500      | 200      | 520      | 550     | 14.0    | 9.8      | 45      |
| 500X250    | 500      | 250      | 590      | 580     | 14.0    | 10.5     | 45      |
| 500X300    | 500      | 300      | 660      | 620     | 14.0    | 11.2     | 45      |
| 500X350    | 500      | 350      | 730      | 655     | 14.0    | 11.9     | 45      |
| 500X400    | 500      | 400      | 800      | 690     | 14.0    | 12.6     | 45      |
| 500X450    | 500      | 450      | 870      | 725     | 14.0    | 13.3     | 45      |
| 600X100    | 600      | 100      | 350      | 565     | 15.4    | 8.4      | 45      |
| 600X150    | 600      | 150      | 450      | 600     | 15.4    | 9.1      | 45      |
| 600X200    | 600      | 200      | 520      | 635     | 15.4    | 9.8      | 45      |
| 600X250    | 600      | 250      | 590      | 670     | 15.4    | 10.5     | 45      |
| 600X300    | 600      | 300      | 660      | 705     | 15.4    | 11.2     | 45      |
| 600X350    | 600      | 350      | 730      | 740     | 15.4    | 11.9     | 45      |
| 600X400    | 600      | 400      | 800      | 775     | 15.4    | 12.6     | 45      |
| 600X450    | 600      | 450      | 870      | 810     | 15.4    | 13.3     | 45      |
| 600X500    | 600      | 500      | 940      | 845     | 15.4    | 14.0     | 45      |

Made to order.

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祥興鑄鐵有限公司

CHEUNG HING FOUNDRY (HK) LIMITED





# 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

## 45° Unequal Branch - Test Report 45°異徑叉證書

### Brinell Hardness

### Dimension



**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 Application  
[BS EN 598 : 2007 + A1 : 2009 Clause 4.3.2]

Date of issue: 02 June 2017  
Page 1 of 1 page(s)  
Castco LRN: DP0170428-167

**Details as supplied by customer:**  
Customer: TPY Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Job title: --  
Contract No.: --  
Customer's ref. no.: --

Sample description: --  
Sample I.D.: --  
Nominal Size (DN): 100 x 100  
Class: --  
Origin: China  
Type: Fitting (All Socket Tee with 45 Degree Equal Branch)  
Manufacturer: TPY Limited  
Brand:

Brinell hardness testing machine: Machine type: 布氏硬式計 HB-3000B Series No.: 0125 (BH01)  
Cert. No.: CLO70518-12 I.D. No.: NDT-HB-01  
Calipers: --  
Laboratory test results: Date of received: 28 April 2017 Date of test: 24 May 2017  
Test specimen thickness: 5.31 mm Test temperature: 26 °C

**Sketch of test locations**

| Indentation no. | Indentation diameter (2 directions) (mm) | Indentation means (mm) | Corresponding hardness value (HB) | Result |
|-----------------|------------------------------------------|------------------------|-----------------------------------|--------|
| 1               | 4.40                                     | 4.40                   | 187                               | C      |
| 2               | 4.40                                     | 4.41                   | 186                               | C      |
| 3               | 4.40                                     | 4.41                   | 186                               | C      |

**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: 06 July 2017  
Page 1A of 2 page(s)  
Castco LRN: DP0170428-167 DIM

**Details as supplied by customer:**  
Customer: TPY Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Job title: --  
Contract No.: --  
Customer's ref. no.: --

Description of: --  
Nominal bore: 100 x 100 mm  
Length: --  
Brand name:   
Type: Fitting (All Socket Tee with 45 Degree Equal Branch)  
Delivery date: --  
Manufacturer: TPY Limited  
Origin: China

**Laboratory Test Result**  
Date sample received: 28 April 2017 Date of test: 05 May 2017  
Specimen no.: DP0170428-167

| Dimension                                       | Test result | BS EN requirement | Customer requirement |
|-------------------------------------------------|-------------|-------------------|----------------------|
| Nominal size DN: 100 x 100                      |             |                   |                      |
| External diameter (e) (mm)                      |             |                   |                      |
| Quality of external diameter (mm)               |             |                   |                      |
| Thickness (T) (mm)                              | 7.79        | 7.2 (-4)          | 7.2                  |
| Internal diameter (mm)                          |             |                   |                      |
| Length (B1) (mm)                                | 245         | --                | 240                  |
| Length (B2) (mm)                                | 250         | --                | 240                  |
| Length (Lc) (mm)                                | 330         | --                | 320                  |
| Measured thickness of cement mortar lining (mm) | 5.74        | >2.5              | --                   |

Remarks: 1. Test results relate only to the specimen tested.  
2. Compliance check against BS EN 598: 2007+A1:2009 clause 4.2 was not possible as this fitting could not be fitted in the standard.  
3. This page no. 1A of test report supersedes page no. 1 of the previous test report of Castco Lab. Ref. No. DP0170428-167 issued on 02/06/2017.

Checked by:   
Certified by:   
From: No. 33, On Kuei Street, Fanling, Hong Kong. Tel: 2597 8333  
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E-mail: info@castco.com.hk Website: www.castco.com.hk

### 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: 02 June 2017  
Page 1 of 1 page  
Castco LRN: DP0170428-167 HYD

**Details as supplied by customer:**  
Customer: TPY Limited  
Address: G/F, No. 120, Tung Tau Tsuen, Shap Pat Heung, Yuen Long, N.T.  
Job title: --  
Contract No.: --  
Customer's ref. no.: --

Description of fitting: --  
Nominal size (DN): 100 x 100  
Length: --  
Brand name:   
Manufacturer: TPY Limited  
Pressure testing type: Fitting (All Socket Tee with 45 Degree Equal Branch)  
Delivery date: --  
Origin: China

**Laboratory Test Result**  
Date of sample received: 28 April 2017 Date of test: 06 May 2017  
Specimen no.: DP0170428-167  
Testing temperature: 20.0 °C  
Pressure amplitude maintained: 25 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: 1. 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:   
Certified by:   
From: No. 33, On Kuei Street, Fanling, Hong Kong. Tel: 2597 8333  
香港粉嶺安基街33號 29A, On Chuen Street, Fanling, Hong Kong. Fax: 2597 8399  
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### Tensile

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

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

Date of issue: 02 June 2017  
Page 1 of 1 page  
Castco LRN: DP0170428-167 TEN

**Details as supplied by customer:**  
Customer: TPY Limited  
Job title: --  
Sample Description: DN100 x 100 All Socket Tee with 45 Degree Equal Branch  
Grade: --  
Manufacturer: TPY Limited  
Acceptance standard: BS EN598 : 2007 + A1 : 2009 Clause 4.3.1  
Brand:   
Origin: China

**Laboratory test results:**  
Date received: 28 April 2017 Date tested: 26 May 2017

| Specimen Mark | Material designation |        | Gauge dia. (mm) | Cross-section area (mm <sup>2</sup> ) | Original gauge length (mm) | Final gauge length (mm) | 0.2% Proof stress |       | Tensile Load |       | Elongation % | Compliance |
|---------------|----------------------|--------|-----------------|---------------------------------------|----------------------------|-------------------------|-------------------|-------|--------------|-------|--------------|------------|
|               | Symbol               | Number |                 |                                       |                            |                         | (kN)              | (MPa) | (kN)         | (MPa) |              |            |
| DP0170428-167 |                      |        | 4.97            | 19.4                                  | 40                         | 46                      |                   |       | 10.0         | 517   | 15           | C          |

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 4.3.1.

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