FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Client Ref. : --
Report No. : 195909PC190345(1)

REPORT ON TESTING OF DUCTILE IRON CONNECTOR

Information Supplied by Client

Client	:	Wah Hung Fire Prevention Equipment Co., Limited
Client Address	:	G/F, No.75, Bedford Road, Tai Kok Tsui, Kowloon, Hong Kong
Sample Description	:	Ductile iron tank connector (puddle flange) with three nos. of flanges, pressure rating PN16
Item No.	:	WH026B
Brand	:	WAH HUNG
Body Markings	:	 DI DN50X600 PN16 BSEN1092-2
Country of Origin	:	China
Model	:	DI-5024
Manufacturer	:	Wah Nan Fire Fighting Equipment Co., Ltd

Laboratory Information

Lab. Sample I.D.	:	PC190345/2
Date Received	:	11 November 2019
Date Test Started	:	15 November 2019
Date Test Completed	:	06 December 2019
Test Method	:	BS EN 12266-1 : 2012, BS EN 1563 : 2011, BS EN 545 : 2010 and BS EN 1092-2:1997

Test Results

1. Dimensions

Lab Sample I.D.	Nominal Size (DN)	Dimension (mm)						Results
		Flange (BSEN 1092-2: 1997 table 9)						
		Length	D	K	L	C	Number of Hole	
PC190345/2	50	610	165	125	19	22.06	4	Pass
BS EN Requirement		N/A	165	125	19 +1.5	19 +4 / -3	4	

The copyright of this report is owned by Fugro Technical Services Limited. This report shall not be reproduced except in full.

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Client Ref. : --
Report No. : 195909PC190345(1)

2. Leak Tightness

BS EN 12266-1 : 2012

Lab Sample I.D.	Test (shell)				
	Nominal Pressure PN (bar)	Test Pressure (bar)	Duration (min.)	Observation	Results
PC190345/2	16	24	10	No leakage	Pass
BS EN 12266-1 : 2012 Clause A.4.3 Requirement	16	16x1.5=24	10	No leakage during the test period	

3. Coating Thickness

BS EN 545 : 2010 Clasue 4.6

Lab Sample I.D.	Average Coating Thickness (µm)	BS EN 545 : 2010 Requirement (µm)	Results
PC190345/2	120	min. 70	Pass

4. Tensile Test

BS EN 1563 : 2011

Min. Diameter of Specimen (mm)	Effective Cross Sectional Area (mm^2)	Tensile Load (kN)	Tensile Stress (N/mm^2)	Gauge Length (mm)	Final Gauge Length (mm)	Elongation (%)	Failure Mode	BS EN Requirement
20.16	319.206	165.6	519	30	33.48	12	Break at Shank	Tensile Strength min. m450N/mm^2 Elongation min.10%
19.98	313.531	166.5	531	30	33.21	11	Break at Shank	
19.86	309.776	163.9	529	30	33.51	12	Break at Shank	

Remarks : Sample test satisfy the tensile strength requirement of BS EN 1563 : 2011 material designation EN-GJS-450-10

The copyright of this report is owned by Fugro Technical Services Limited. This report shall not be reproduced except in full.

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Client Ref. : --
Report No. : 195909PC190345(1)

5. Summary of Results (apply only to sample tested)

Dimensions	--	Pass
Leak Tightness	--	Pass
Coating Thickness	--	Pass
Tensile Test	--	Pass (EN-GJS-450-10 of BS EN 1563 : 2011)

Remark : 1.) An epoxy coating was visible on the visual internal water contact surface of the sample.
2.) The test sample is shown in the photograph on page 4 of this report.

Checked by : _____ Date : 11 FEB 2020 Certified by : _____ Date : 11 FEB 2020

Ng Shu Shing Chris
Assistant Manager (Plumping Components)

The copyright of this report is owned by Fugro Technical Services Limited. This report shall not be reproduced except in full.

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Client Ref. : --
Report No. : 195909PC190345(1)



Test Sample
Sample I.D.: PC190345/2



Body Marking
Sample I.D.: PC190345/2



Body Marking
Sample I.D.: PC190345/2

End of Report

The copyright of this report is owned by Fugro Technical Services Limited. This report shall not be reproduced except in full.