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

Client Ref. : --
Report No. : 195909PC190345(4)

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 DN100X600 PN16 BSEN1092-2
Country of Origin	:	China
Model	:	DI-10024
Manufacturer	:	Wah Nan Fire Fighting Equipment Co., Ltd

Laboratory Information

Lab. Sample I.D.	:	PC190345/5
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	
PC190345/5	100	610	220	181	20	22.22	8	Pass
BS EN Requirement		N/A	220	180	19 +1.5	19 +4 / -3	8	

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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
PC190345/5	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
PC190345/5	122	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

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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)

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Test Sample
Sample I.D.: PC190345/5



Body Marking
Sample I.D.: PC190345/5

Body Marking
Sample I.D.: PC190345/5

End of Report

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