TEST REPORT
AUDIT TEST (AT)

REPORT NO.:
150247-3

DANISH TECHNOLOGICAL INSTITUTE

Teknologiparken
Kongsvang Allé 29
DK-8000 Aarhus C
+45 72 20 20 00

info@dti.dk
www.dti.dk

Date: 9 December 2022
Init.: LIAS/ARP/MRI
Appendices: -

Approval holder:	Luxor S.p.A. Via Zanardelli 88 25013 Carpenedolo (BS), Italy Contact person: Franco Spinelli Email: franco.spinelli@luxor.it
Control period:	2022
Product:	Luxor TPSIV flexible hose-set, dim. DN6, DN8 Material: TPSiV
Approvals:	1.14/20799 SC2192-12 1892
Certification bodies:	ETA-Danmark A/S, RISE Certifiering, Sintef
Control agreement:	No. 75 of 29 September 2015
Manufacturing and sampling site:	Luxor S.p.A. Via Madonnina 94 25018 Montichiari (BS), Italy
Samples:	The samples were selected by DTI according to DTI's sampling procedure No. 9375. The samples were selected by DTI and received by DTI on 20 April 2022.
Test period:	18 August - 29 November 2022
Test site:	Danish Technological Institute, VA Testing and Inspection (DTI) Kongsvang Allé 29, DK-8000 Aarhus C, Denmark
Test method:	EN 13618:2016 - Flexible hose assemblies in drinking water installations Certification rule 074:2018 - Production control for drinking water products
Result:	The requirements of the test methods mentioned above were met. Reduced test programme compared to the test methods.
Terms:	Accredited testing was carried out in compliance with international requirements (EN ISO/IEC 17025:2017) and in compliance with Danish Technological Institute's General Terms and Conditions regarding Commissioned Work Accepted by Danish Technological Institute. The test results apply to the tested products only. This test report may be reproduced in extract only if the Laboratory has approved the extract in writing.

Signature:

Liselotte A. Sørensen
Consultant

Allan R. Pedersen
Product Manager

Digitally signed by: Allan Rosenberg Pedersen
DN: CN = Allan Rosenberg Pedersen C = DK O = Teknologisk Institut // CVR:56976116
Date: 2022.12.09 07:30:02 +01'00'

ilac-MRA DANAK
Test Reg. No. 300

Test methods and requirements in accordance with: EN 13618:2016	Test site	Table No.	Requirements met		Accredited		Sub-contractor Accreditation No.
			Yes	No	Yes	No	
Identification of the tested components and general information	DTI	Table 1					
4.2.2.1 Dimensions of fittings	DTI	Tables 2 - 3	X		X		
4.2.3.3 Leak tightness under internal hydrostatic pressure	DTI	Table 4	X		X		
4.2.3.5 Pressure cycling resistance	DTI	Table 5	X		X		
6 Marking	DTI	Table 6	X		X		
Material analysis (OES)	DTI	Table 7	X		X		

Table 1

Identification of the tested components and general information

Item Id.	Photo	Model	DN mm	Length mm
1		F½" x 10x1 M⅜ x F M10x1 F⅜" x 10x1 F½" x 10x1 F⅜" x 10 mm (plain end)	DN6 Braiding: Nylon	300
2		F⅜" x 10 mm (plain end) F⅜" x 10x1 F½" x 10x1 F½ x M½" M⅜ x 10 mm (plain end)	DN8 Braiding: Stainless steel	300

Table 2

4.2.2.1 - Dimensions of fittings

Item id. 1, A1: F⅜" x 10 (plain end)
Item id. 1, A2: F½" x 10x1
Item id. 1, A3: M⅜" x F M10x1

Sample No.		A1	Requirement A1	A2	Requirement A2	A3	Requirement A3
Inside thread	**Go No-go**	Go	**Go**	Go	**Go**	No go	**-**
Useful length of inside thread	**mm**	5.12	**Min. 5**	5.8	**Min. 6**	6.6	**-**
Outside threat	**Go No-go**	-		Go	**Go**	No go	**Go**
Useful length of outside thread	**mm**	-		6.8	**-**	10.0	**Min. 7**
Plain end fitting	**mm**	7.96	**≤8**			-	**-**
Requirements met	**Yes**	X		X		X	
	No						

Test equipment: 6916, 6918, 132698, 132697, 182032 291448 108860 108861

Table 3

4.2.2.1 - Dimensions of fittings

Item id. 2, B1: F⅜" x 10x1
Item id. 2, B2: F⅜" x M½"
Item id. 2, B3:M⅜" x 10mm (plain end)

Sample No.		B1	Requirement B1	B2	Requirement B2	B3	Requirement B3
Inside thread	**Go No-go**	No go	**Go**	Go	**Go**		
Useful length of inside thread	**mm**	6.69	**Min. 5**	4.8	**5**		
Outside threat	**Go No-go**	Go	**Go**	Go	**Go**	Go	**Go**
Useful length of outside thread	**mm**	7.6	**-**	7.9	**7**	7.9	**7**
Plain end fitting	**mm**					10.0	**-**
Requirements met	**Yes**	X		X		X	
	No						

Test equipment: 6916, 6918, 132698, 132697, 182032 291448 108860 108861

Table 4

4.2.3.3 - Leak tightness under internal hydrostatic pressure

Item Id.	Sample No.	Test temperature °C	Test pressure MPa	Test duration min.	Requirements met Yes	No
1	1	90	3.0	60	X	
	2				X	
	3				X	
2	1	90	3.0	60	X	
	2				X	
	3				X	

Ageing of test samples

The samples are filled with water, and a pressure of 1.2 MPa is applied and maintained under storage of the assembly at 90°C for 168 h. After cooling down to 23 °C, the hydrostatic pressure test is carried out.

Test equipment: 155036, 270-A-2265

Table 5

4.2.3.5 - Pressure cycling resistance

Item Id.	Sample No.	Test pressure Lower MPa	Higher MPa	Test temperature °C	Cycling time s	Requirements met Yes	No
1	4	0.5	3	90	2	X	
	5					X	
	6					X	
2	4	0.5	3	90	2	X	
	5					X	
	6					X	

Ageing of test samples

The samples are filled with water and a pressure of 1.2 MPa is applied and maintained under storage of the assembly at 90°C for 168 h.

Requirement

After 25,000 cycles, the assembly shall show no detachment or visible leakage or cracks when 6 times magnified.

Test equipment: 199903, 270-A-2065

Table 6

6 - Marking

Item id. 1

Fitting: LUXMA-22 DN6 PN10 70°C MADE IN ITALY

Internal hose: MAFILPLAST -LCPW-TPSiV 5300-A8503-KTW A-60°C DN6-LUXOR-12/2021 LXR150621

Label: INOX+TP DN6 SAMPLES "C"

Original packaging: Not provided.

Item id. 2

Fitting: LUX22 DN8 PN10 70°C

Internal hose: MAFILPLAST-LCPW-TPSiV 5300-A8503-KTW A60°C -W270-DN8-LUXOR -10/2022 LXR011022

Label: INOX TP DN8 SAMPLES "C"

Original packaging: Not provided.

Requirements:

— Name or trademark of the manufacturer or supplier
— At least the last two digits of the production year

Internal hoses shall be marked with the name or trademark of the manufacturer or supplier and date of production.

Assessment

The requirements for marking are met.

Table 7

Material analysis (OES) according to ISO DS/EN 15079:2015

Chemical composition (weight %)

	Zn	Pb	Sn	P	Mn	Fe	Ni
Average	39.920	1.880	0.210	0.006	<0.001	0.254	0.054
Uncertainty	0.584	0.143	0.017	0.003	-	0.011	0.004

	Si	As	Sb	Al	S	Bi	Cr
Average	0.001	0.004	0.006	0.019	0.002	0.004	0.001
Uncertainty	0.002	0.002	0.003	0.001	0.002	0.004	0.001

	Cu
Average	57.600
Uncertainty	0.569

Int.:OTHE/MBD

Test piece:	Fitting of item id. 2	**Reported material:**	CW617N
Test method:	Cu20Mest	**Acceptance criteria:**	DS/CEN/TS 13388:2020
Instrument:	Spectro SPECTROMAXx	**Date of testing:**	30-11-2022
Reference:	168474-1	**Date of issue:**	30-11-2022
VA reference:	150247-3	**Material analysis carried out by:** Danish Technological Institute Industrial Materials Technology	

Result

The measured elemental composition is in compliance with the specified material composition of CW617N according to DS/CEN/TS 13388:2020. The average measurement result is within the specification limit.

The statement of compliance or non-compliance with specified requirements are determined by binary statement for simple acceptance according to ILAC-G8:09/2019: Guidelines on Decision Rules and Statements of Conformity. The probability for false accept or reject is <50% assuming a single sided specification and normal distribution of measurement results.

Uncertainty

The reported uncertainties are given in the expanded uncertainty (95% confidence interval) determined according to JCGM 100:2008: Evaluation of measurement data – Guide to expression of uncertainty in measurements.