

07/11/2024

Milan, Italy

Subject: DM174/2004 certification for ductile iron soft seated gate valves for potable water

ECI European Casting Industry Srl declares that **ECI model G511 – Ductile Iron Resilient Seated Gate Valve with EPDM Wedge PN16 F4** has undergone a 3rd party migration test in accordance to DM174/2004 of the Italian decree of the Italian Ministry of Health for drinking/potable water. Model G511 is then applicable for potable water applications. As part of ECI Srl's commitment to our quality policy and quality control, the test will be repeated every 3 years from the date of certificate issuance.

Please refer within this declaration to the attached report numbers RP077824 and RP087524 dated 07/11/2024 issued by TecnoLab del Lago Maggiore Srl.

Kind Regards



ECI EUROPEAN
CASTING
INDUSTRY
Via Lazzaretto, 11 - 20124 Milano MI, Italy

ECI EUROPEAN CASTING INDUSTRY SRL

			TEST REPORT RP078824
			15/10/2024
			Page 1 of 6

CUSTOMER Cliente	ECI European Casting Industry Srl Via Lazzaretto 11 20124 Milano (MI) Italy		
CONTRACT Commessa	CO028824- 09/09/2024		
TEST REPORT Rapporto di Prova	RP078824		
	Determination of chemical composition		
Internal procedures of Laboratory Procedura interna del Laboratorio	➤ PP.0040 Rev.3		
Emission Date Data di Emissione	Prepared by Redazione	Verified by Verifica Tecnica	Approved by Autorizzazione
15/10/2024	 Laboratory Technician Lorenzo Edoardo Colombo	 Manager Arianna Pella	 Laboratory Manager Michele Setaro

  	TEST REPORT RP078824
	15/10/2024
	Page 2 of 6

INDEX	Page nr.
1. GENERAL REMARKS	3
1.1 Customer data	3
1.2 Identification of Samples under test	3
1.3 Sampling	3
2. SCOPE	3
3. APPLICABLE DOCUMENTS	3
3.1 Reference Standards and Documents	3
3.2 Applicable internal procedures of Laboratory	3
3.3 Applicability	3
4. TECHNICAL COMPETENCE	4
5. TEST EQUIPMENT USED	4
6. TEST PERFORMED	4
6.1 General	4
6.1.1 Test site	4
6.1.2 Measurement uncertainty	4
6.1.3 List and description of tests	4
6.2 Determination of the chemical composition	4

1. GENERAL REMARKS

1.1 Customer data

Customer:	ECI European Casting Industry Srl
Address:	Via Lazzaretto 11 20124 Milano MI

1.2 Identification of Samples under test

Sample nr	Acceptance code	Description As provided by the Customer	Receiving date
1	AC075024/2	Valvola a saracinesca a cuneo gommato in ghisa sferoidale corpo piatto FL PN10/16 conforme DIN3352 - G511	03/10/2024



Figure 1 - Sample 1

1.3 Sampling

All test results in this report refer exclusively to the tested samples, and apply to the samples tested by the test laboratory as received. Customer is responsible for sampling. It is the responsibility of the manufacturer to ensure that all production meet the intent of the requirements detailed within this report. The extension of test results to the entire production is responsibility of manufacturer/importer.

2. SCOPE

The purpose of the tests and measurements is to provide to the Customer indications about the Samples.

3. APPLICABLE DOCUMENTS

3.1 Reference Standards and Documents

Evaluation criteria for metallic materials Rev.4*	UBA: Evaluation criteria for metallic materials in contact with drinking water (4rd amendment of recasting as at 10th of June 2024)
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* NOT ACCREDITED BY PJLA

3.2 Applicable internal procedures of Laboratory

PP.0040 Rev.3	Chemical Composition Evaluation Test via Optical Emission Spectrometry (S-OES)
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3.3 Applicability

Test Plan is shown in paragraph 6.1.3 of this Test Report.

  	TEST REPORT RP078824
	15/10/2024
	Page 4 of 6

4. TECHNICAL COMPETENCE

Technicians, assigned to execute the tests described in this Test Report, have been qualified as required by Quality System of Tecnolab del Lago Maggiore s.r.l.

5. TEST EQUIPMENT USED

Tecnolab code	Description	Constructor	Model
STACH016	Optical Emission Spectrometry	GNR optica	MLP
STSCA021	Data logger for temperature and humidity	TESTO	testo 175H1

6. TEST PERFORMED

6.1 General

6.1.1 Test site

Tests were performed at laboratory Tecnolab del Lago Maggiore S.r.l., Via dell'Industria 20, 28924 Verbania Fondotoce (VB) ITALY.

Tecnolab del Lago Maggiore S.r.l. is accredited to ISO/IEC 17025:2017 standard.

6.1.2 Measurement uncertainty

The measurement uncertainties stated in this document are expressed as expanded uncertainty obtained by multiplying the standard uncertainty by the coverage factor $k = 2$ corresponds to a confidence level of about 95%.

6.1.3 List and description of tests

Test	Test Report's Paragraph	Sample
Determination of chemical composition	6.2	1

6.2 Determination of the chemical composition


Date of test:	07/10/2024
Sample:	1
Note:	The values derived from an average of 5 readings. Values are expressed as a percentage.
Result:	Results are reported in Table 1 & 2




Element	Chemical Symbol	Sample
		Average
Zinc	Zn	39,643
Lead	Pb	1,507
Tin	Sn	0,425
Phosphorus	P	0,009
Manganese	Mn	0,040
Iron	Fe	0,441
Nickel	Ni	0,268
Aluminum	Al	0,277
Chrome	Cr	0,026
Sulfur	S	<0,002
Cadmium	Cd	0,010
Bismuth	Bi	0,005
Arsenic	As	0,005
Silicon	Si	0,043
Antimony	Sb	0,003
Copper	Cu	57,299

Table 1 - Sample of Brass

Element	Chemical Symbol	Sample
		Average
Carbon	C	>5,000
Silicon	Si	2,456
Manganese	Mn	0,172
Phosphorus	P	0,048
Sulfur	S	0,278
Chromium	Cr	0,033
Molybdenum	Mo	0,039
Nickel	Ni	0,016
Niobium	Nb	<0,001
Aluminum	Al	0,035
Copper	Cu	0,031
Cobalt	Co	0,006
Boron	B	0,0096
Titanium	Ti	0,051
Vanadium	V	0,032
Tungsten	W	0,017
Tin	Sn	0,012
Lead	Pb	<0,001
Calcium	Ca	0,0230
Bismuth	Bi	<0,001
Arsenic	As	<0,001
Antimony	Sb	0,024
Zinc	Zn	0,268
Zirconium	Zr	0,024
Iron	Fe	83,850

Table 2 - Sample of Cast Iron

	TEST REPORT RP087524	
	07/11/2024	Page 1 of 5

CUSTOMER Cliente	ECI European Casting Industry Srl Via Lazzaretto 11 20124 Milano (MI) Italy		
CONTRACT Commessa	CO028824- 09/09/2024		
TEST REPORT Rapporto di Prova	RP087524 Global migration and specific migration on gate valve G511		
APPLICABLE STANDARDS Norme di riferimento	➤ D.M. 174/2004		
Emission Date Data di Emissione	Prepared by Redazione	Verified by Verifica Tecnica	Approved by Autorizzazione
07/11/2024	 Laboratory Technician Lorenzo Edoardo Colombo	 Manager Arianna Pella	 Laboratory Manager Michèle Setaro



TEST REPORT RP087524


07/11/2024

Page 2 of 5

INDEX

Page nr.

1. GENERAL REMARKS	3
1.1 Customer data	3
1.2 Identification of Sample and/or equipment under test (EUT)	3
1.3 Sampling	3
2. SCOPE	3
3. APPLICABLE DOCUMENTS	3
3.1 Reference Standards and Documents	3
3.2 Applicability	3
3.3 Definitions and glossary of terms	4
4. TECHNICAL COMPETENCE	4
5. TEST PERFORMED	4
5.1 General	4
5.1.1 Test site	4
5.1.2 Measurement uncertainty	4
5.1.3 Decision Rule for the attribution of Conformity	4
5.1.4 List and description of tests	4
5.2 Test	5
5.2.1 EPDM Rubberized wedge	5
5.2.2 Ductile iron EN-GJS-500-10	5
5.2.3 Screw in AISI SS420 steel	5

	TEST REPORT RP087524	
	07/11/2024	Page 3 of 5

1. GENERAL REMARKS

1.1 Customer data

Customer:	ECI European Casting Industry Srl
Address:	Via Lazzaretto 11 20124 Milano (MI) Italy

1.2 Identification of Sample and/or equipment under test (EUT)

Sample nr	Acceptance code	Description As provided by the Customer	Receiving date
1	AC075024/1	Valvola a saracinesca a cuneo gommato in ghisa sferoidale corpo piatto FL PN10/16 conforme DIN3352 G511	03/10/2024



Figure 1 - Sample

1.3 Sampling

All test results in this report refer exclusively to the tested samples, and apply to the samples tested by the test laboratory as received. Customer is responsible for sampling. It is the responsibility of the manufacturer to ensure that all production meet the intent of the requirements detailed within this report. The extension of test results to the entire production is responsibility of manufacturer/importer.

2. SCOPE

Test and measurements scope is to provide to the Customer useful indications in order to evaluate EUT compliance with reference standards; the test plan has been requested by Customer.


3. APPLICABLE DOCUMENTS

3.1 Reference Standards and Documents

D.M. n°174 del 06/04/2004 GU N°166 del 17/07/2004	Regolamento concernente i materiali e gli oggetti che possono essere utilizzati negli impianti fissi di captazione, trattamento, adduzione e distribuzione delle acque destinate al consumo umano.
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3.2 Applicability

Test Plan is shown in paragraph 6.1.2 of this test report.

	TEST REPORT RP087524	
	07/11/2024	Page 4 of 5

3.3 Definitions and glossary of terms

PASS: In compliance with reference Standard

FAIL: Not in compliance with reference Standard

4. TECHNICAL COMPETENCE

Technicians, assigned to execute the tests described in this Test Report, have been qualified as required by Quality System of Tecnolab del Lago Maggiore s.r.l.

5. TEST PERFORMED

5.1 General

5.1.1 Test site

Tests were performed at laboratory partner Tecnologie d'Impresa S.r.l. a socio unico Via Don Minzoni, 15, 22060 Cabiato (CO) Italy.

5.1.2 Measurement uncertainty


The measurement uncertainties stated in this document are expressed as expanded uncertainty obtained by multiplying the standard uncertainty by the coverage factor $k = 2$ corresponds to a confidence level of about 95%.

5.1.3 Decision Rule for the attribution of Conformity

For tests performed in accordance with methods and specifications that identifies the conditions of acceptability and any related tolerances for the result, the Laboratory reports the compliance in accordance with the test result without considering the associated uncertainty values.

5.1.4 List and description of tests

Test	Applicable Standard	Paragraph of this Test Report	Sample	Test result
Global migration and specific migration	D.M. n°174 del 06/04/2004 GU N°166 del 17/07/2004	6.2	1	PASS

	TEST REPORT RP087524	
	07/11/2024	Page 5 of 5

5.2 Test

Condition of test:	solution: distilled water time of contact: 24 hours temperature of contact: 40°C date of test: 04/10/2024 – 30/10/2024
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5.2.1 EPDM Rubberized wedge

Parameter:	Measurement unit	Result	Limit
Global migration	mg/dm ²	1	60
Specific migration of dyes	Optical transmission %	> 95%	optical transmission not lower than 95% compared to the baseline
PASS			

5.2.2 Ductile iron EN-GJS-500-10

Parameter:	Measurement unit	Result	Limit
Global migration	mg/dm ²	1,5	60
Specific migration of dyes	Optical transmission %	> 95%	optical transmission not lower than 95% compared to the baseline
PASS			

5.2.3 Screw in AISI SS420 steel

Parameter:	Measurement unit	Result	Limit
Global migration	mg/dm ²	0,50	8
Specific migration of Chromium	ppm	<0,01	0,1
Specific migration of Nickel	ppm	<0,01	0,1
Specific migration of Manganese	ppm	<0,01	0,1
PASS			

----- END OF TEST REPORT NR.RP087524 -----