

**Test Report
Non-Metallic Material & Products Testing**

Date of issue: 19-01-2022

Page 1 of 7

Castco LRN: 211026-2438

Details as supplied by customer

Name of Customer : Gate Way Valve & Fitting Limited

Address : Flat A1, 4/F., Galaxy Factory Bldg., 25-27 Luk Hop Street, San Po Kong, Kowloon, Hong Kong

Job Title : Testing Service - BS6920

Customer's Ref. No. : --

Contract No. : --

Sample details as supplied by customer

Date of Sample Received : 26-10-2021

Test Period : 26-10-2021 to 18-01-2022

Sample Description : POM check valve cartridge (for JCH90)

Brand Name : Neoperl

Manufacturer : Neoperl GmbH

Test Method(s):

Part 2 :

Section 2.2 : BS 6920-2.2.1:2000 + A3:2014 Odour and Flavour of Water

Section 2.3 : BS 6920-2.3:2000 + A1:2014 Appearance of Water

Section 2.4 : BS 6920-2.4:2000 + A1:2014 Growth of Aquatic Micro-Organisms Test

Section 2.5 : BS 6920-2.5:2000 + A2:2014 The extraction of substances that may be of concern to public health

Section 2.6 : BS 6920-2.6:2000 + A2:2014 Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water - The extraction of metals

Remarks:

- I. Test results only relate to the specimen tested and showed on Appendix I.
- II. The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client. Castco therefore assumes no responsibility for the accuracy of information on the brand name, origin of manufacture, consignment or any information supplied.

Checked by :



Au Kwok Kin
Assistant Technical Manager

Approved Signatory :



Cheng Chi Fai
Senior Manager

Test Report
Non-Metallic Material & Products Testing

Date of issue: 19-01-2022

Page 2 of 7

Castco LRN: 211026-2438

Section 2.2 : Odour and Flavour of Water

Extraction Temperature : 23°C

Surface area of the sample : 15000 mm²

Cal. Mark of test container : 1000 mL

Extraction Solution		Result	
		Chlorine-Free Water	Chlorinated Water
First extract	Odour	Yes (Plastic)	No
	Flavour	--	No
Seventh extract	Odour	No	--
	Flavour	No	--

Extraction Temperature : 35°C

Surface area of the sample : 15000 mm²

Cal. Mark of test container : 1000 mL

Extraction Solution		Result	
		Chlorine-Free Water	Chlorinated Water
First extract	Odour	Yes (Plastic)	Yes (Plastic)
	Flavour	--	--
Seventh extract	Odour	No	No
	Flavour	No	No

Test Report

Non-Metallic Material & Products Testing

Date of issue: 19-01-2022

Page 3 of 7

Castco LRN: 211026-2438

Section 2.3 : Appearance of Water

Extraction Temperature : 23°C

Surface area of the sample : 15000 mm²

Cal. Mark of test container : 1000 mL

Extraction Solution		Result	Requirement of BS6920
First extract	Turbidity (FNU)	<0.5	≤0.5
	Color (CU)	<5	≤5
Seventh extract	Turbidity (FNU)	--	/
	Color (CU)	--	/

Extraction Temperature : 35°C

Surface area of the sample : 15000 mm²

Cal. Mark of test container : 1000 mL

Extraction Solution		Result	Requirement of BS6920
First extract	Turbidity (FNU)	<0.5	≤0.5
	Color (CU)	<5	≤5
Seventh extract	Turbidity (FNU)	--	/
	Color (CU)	--	/

Test Report
Non-Metallic Material & Products Testing

Date of issue: 19-01-2022

Page 4 of 7

Castco LRN: 211026-2438

Section 2.4 : Growth of Aquatic Micro-Organisms Test

Extraction Temperature : 30°C

Surface area of the sample : 15000 mm²

Cal. Mark of test container : 1000 mL

Specimens	Result	
	Dissolved oxygen (mg/L)	
	*MDOD	BS Requirement
Test Product (Single sample)	0.5	≤1.69
Glass (Negative reference)	0.0	MDOD = 0.0 ± 0.6
Paraffin wax (Positive reference)	6.8	MDOD = 7.5 ± 2.5

Remark(s):

The mean dissolved oxygen concentration of the control was 7.4 mg/L. (BS Requirement: 8.5 ± 2.5)

*MDOD = Mean dissolved oxygen difference

Section 2.5 : The extraction of substances that may be of concern to public health

Extraction Temperature : 23°C

Surface area of the sample : 15000 mm²

Cal. Mark of test container : 1000 mL

Specimens	Result	Remark
Test Product (All cells form a confluent health monolayer)	Yes	Non-cytotoxic
Test reagent Blank (All cells form a confluent health monolayer)	Yes	Non-cytotoxic

Extraction Temperature : 35°C

Surface area of the sample : 15000 mm²

Cal. Mark of test container : 1000 mL

Specimens	Result	Remark
Test Product (All cells form a confluent health monolayer)	Yes	Non-cytotoxic
Test reagent Blank (All cells form a confluent health monolayer)	Yes	Non-cytotoxic

Test Report

Non-Metallic Material & Products Testing

Date of issue: 19-01-2022

Page 5 of 7

Castco LRN: 211026-2438

Section 2.6 : Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water - The extraction of metals

Extraction Temperature : 23°C

Surface area of the sample : 15000 mm²

Cal. Mark of test container : 1000 mL

Metal	Test results (µg/L)		Maximum allowable concentrations (µg/L)	Method
	First extraction			
	Sample 1	Sample 2		
Boron	<5.0	<5.0	1000	ICP-MS
Aluminium	8.8	11	200	
Chromium	<1.0	<1.0	50	
Manganese	<5.0	<5.0	50	
Iron	12	6.1	200	
Nickel	<1.0	<1.0	20	
Arsenic	<1.0	<1.0	10	
Selenium	<1.0	<1.0	10	
Cadmium	<0.50	<0.50	5	
Antimony	<0.50	<0.50	5	
Mercury	0.13	0.16	1	
Lead	<1.0	<1.0	10	

Remark(s):

1) The maximum allowable concentrations are according to BS 6920:2014 (Part 1: Specification) Table 1

Test Report
Non-Metallic Material & Products Testing

Date of issue: 19-01-2022

Page 6 of 7

Castco LRN: 211026-2438

Section 2.6 : Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water - The extraction of metals

Extraction Temperature : 35°C

Surface area of the sample : 15000 mm²

Cal. Mark of test container : 1000 mL

Metal	Test results (µg/L)		Maximum allowable concentrations (µg/L)	Method
	First extraction			
	Sample 1	Sample 2		
Boron	<5.0	<5.0	1000	ICP-MS
Aluminium	8.6	8.0	200	
Chromium	<1.0	<1.0	50	
Manganese	<5.0	<5.0	50	
Iron	9.7	5.3	200	
Nickel	<1.0	<1.0	20	
Arsenic	<1.0	<1.0	10	
Selenium	<1.0	<1.0	10	
Cadmium	<0.50	<0.50	5	
Antimony	<0.50	<0.50	5	
Mercury	<0.10	<0.10	1	
Lead	1.5	1.5	10	

Remark(s):

1) The maximum allowable concentrations are according to BS 6920:2014 (Part 1: Specification) Table 1

Summary of Results

Date of issue: 19-01-2022

Page 7 of 7

Castco LRN: 211026-2438

Sample Description : POM check valve cartridge (for JCH90)

Standard	Test	Compliance with BS 6920, Part 1:2014 (cold water)
BS 6920, Section 2.2.1 : 2014	Odour and Flavour	Pass
BS 6920, Section 2.3 : 2014	Appearance	Pass
BS 6920, Section 2.4 : 2014	Growth of aquatic micro-organisms	Pass
BS 6920, Section 2.5 : 2014	Extraction of substances that may be of concern to public health	Pass
BS 6920, Section 2.6 : 2014	Extraction of metal	Pass

Standard	Test	Compliance with BS 6920, Part 1:2014 (hot water 35°C)
BS 6920, Section 2.2.1 : 2014	Odour and Flavour	Pass
BS 6920, Section 2.3 : 2014	Appearance	Pass
BS 6920, Section 2.5 : 2014	Extraction of substances that may be of concern to public health	Pass
BS 6920, Section 2.6 : 2014	Extraction of metal	Pass

End of Report

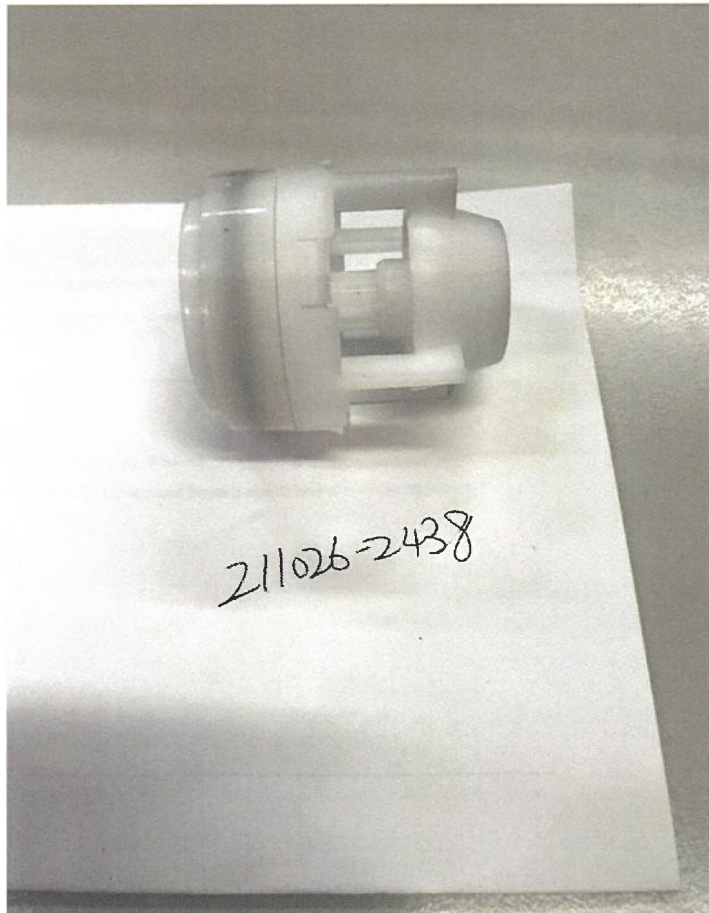
**Appendix I
(Photo of sample)**

Date of issue: 19-01-2022

Page 1 of 1

Castco LRN: 211026-2438

Sample Description : POM check valve cartridge (for JCH90)



Appendix II

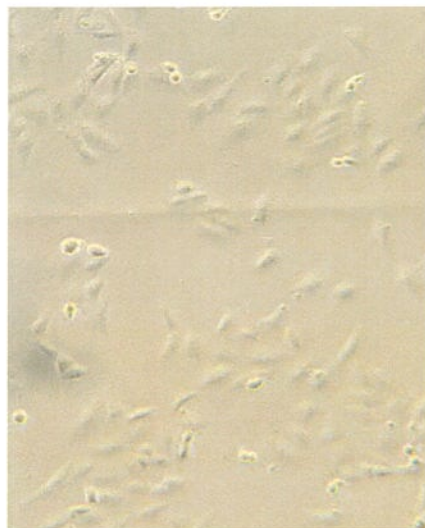
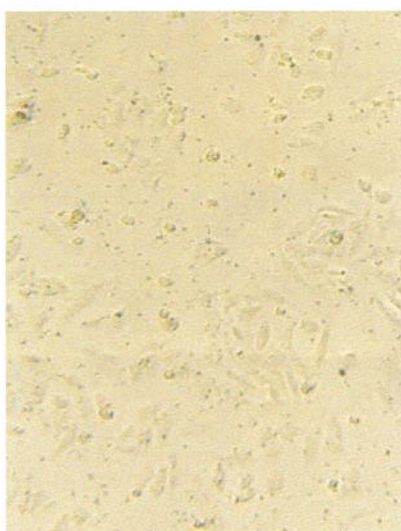
(BS 6920-2.5:2000 + A2:2014 The extraction of substances that may be of concern to public health)

Date of issue: 19-01-2022

Page 1 of 2

Castco LRN: 211026-2438

Sample Description : POM check valve cartridge (for JCH90) (Cold Water)

SampleBlankZinc SulphateCells only

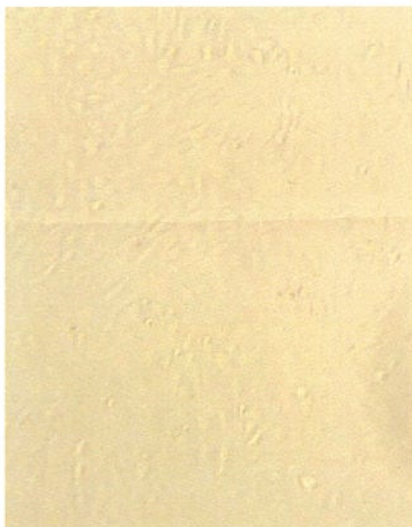
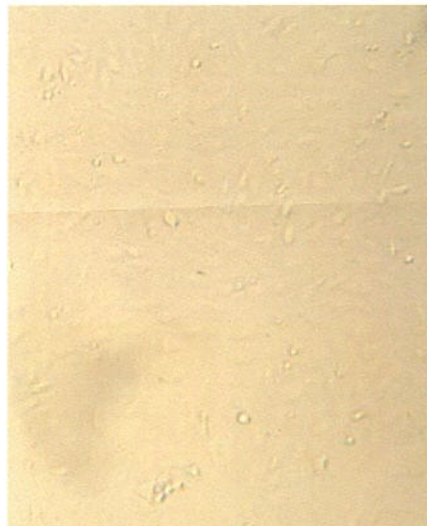
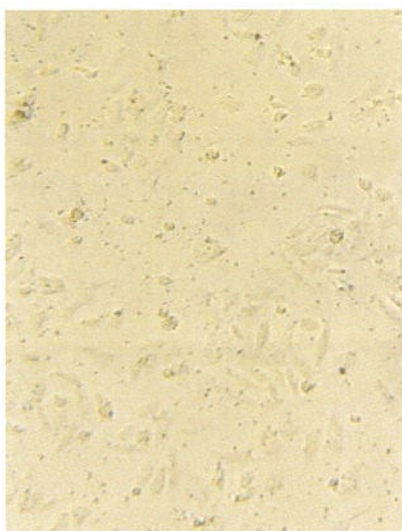
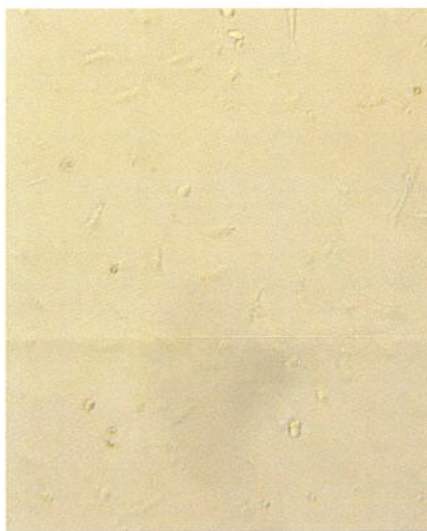
Appendix II**(BS 6920-2.5:2000 + A2:2014 The extraction of substances that may be of concern to public health)**

Date of issue: 19-01-2022

Page 2 of 2

Castco LRN: 211026-2438

Sample Description : POM check valve cartridge (for JCH90) (Hot Water)

SampleBlankZinc SulphateCells only