



**Customer: C0273416**

Jain Irrigation Systems Ltd  
Jain Plastic Park N.H. No 6  
P.O. Box 72  
Bambhori  
425001  
India

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<b>Result</b>	This product has satisfied the criteria set out in BS 6920: Part 1: 2014 "Specification" and thus is suitable for use with hot (up to 45°C) and cold water.
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Customer Name	Jain Irrigation Systems Ltd
Product	Jain UPVC Moulded Fitting
Test Undertaken	BS 6920: 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
Job Number	J-00368450
PAMS Number	201637

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**Thank you for having your product tested by NSF Wales Ltd.**

Please contact your Account Manager if you have any questions or concerns pertaining to this report.

**Report Date** 18-DEC-2020

**Report Authorisation**

Michael Bustin - Materials Testing Manager



0626

## Result Summary Section

<b>Test</b>	<b>Result</b>
Odour and flavour of water BS 6920: Part 1: 2014, Clause 4 - 23°C	Pass
Odour and flavour of water BS 6920: Part 1: 2014, Clause 4 - 45°C	Pass
Appearance of Water BS 6920: Part 1: 2014, Clause 5	Pass
Growth of Microorganisms BS 6920: Part 1: 2014, Clause 6	Pass
Extraction of substances that may be of concern to public health BS 6920: Part 1: 2014, Clause 7 - 23°C	Pass
Extraction of substances that may be of concern to public health BS 6920: Part 1: 2014, Clause 7 - 45°C	Pass
Extraction of Metals BS 6920: Part 1: 2014, Clause 8 - 45°C	Pass

## Sample Details

Date of Receipt of Application Form	27/07/2020
Date of Receipt of Product for Test	03/08/2020
Product *	Jain UPVC Moulded Fitting
Nature of Material *	UPVC
Date Test Sample Manufactured *	01/07/2020
Batch Number *	201831
Receipt Conditions	Good Condition
Receipt Packaging	Cardboard box
Product Manufacturer *	Jain Irrigation Systems Ltd.,
Product Manufacturing Site *	Jalgaon, India
Tradename and Reference of Product *	Elbow 50mm UPVC Moulded fitting
Method of Manufacture *	Injection moulding
Typical Use of the Product *	Potable water supply
Material Manufacturer *	Reliance Industries Ltd.,
Tradename and Reference of Material *	PVC-57GER01
Nature of Product *	Elbow
Sampling Procedure *	Random
Address of Product Manufacturer *	Jain Plastic Park, Bambhori, Jalgaon - 425001, India

\* denotes customer supplied information

## Sample Preparation

Description/Appearance of the product	Grey, opaque, rigid elbow.
Length	51 mm
Inner diameter	50.5 mm
Outer diameter	56.6 mm
Surface area of one article	35345.6 mm <sup>2</sup>
Number of articles constituting a sample	0.43
Surface area for test	15494.2 mm <sup>2</sup>
Calibration mark of test container	1 L
Storage Conditions	As in BS 6920: Part 2: Section 2.1: Clause 5.2

**Job Attachments:**



Photo 1.

**Odour and flavour of water BS 6920: Part 1: 2014, Clause 4 - 23°C**

**Methodology:** BS 6920: Part 2: Section 2.2 and in-house method PROC/MAT 004 and 006.

Date Leaching Test Started: 28-OCT-2020

***First Extract - Chlorinated Test Water***

Panellist	Odour Descriptor	Flavour Descriptor	Flavour Dilution Number
1	None	None	1
2	None	None	1
3	None	None	1

***First Extract - Chlorine Free Test Water***

Panellist	Odour Descriptor	Flavour Descriptor	Flavour Dilution Number
1	None	None	1
2	None	None	1
3	None	None	1

On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 4.

**Odour and flavour of water BS 6920: Part 1: 2014, Clause 4 - 45°C**

**Methodology:** BS 6920: Part 2: Section 2.2 and in-house method PROC/MAT 004 and 006.

Date Leaching Test Started: 7-SEP-2020

***First Extract - Chlorinated Test Water***

Panellist	Odour Descriptor	Flavour Descriptor	Flavour Dilution Number
1	Pencil lead	Not Suitable for flavour - failed odour	2
2	Wood shaving	Not Suitable for flavour - failed odour	2
3	None	Not Suitable for flavour - failed odour	2

***First Extract - Chlorine Free Test Water***

Panellist	Odour Descriptor	Flavour Descriptor	Flavour Dilution Number
1	None	None	1
2	None	None	1
3	None	None	1

***Final Extract - Chlorinated Test Water***

Panellist	Odour Descriptor	Flavour Descriptor	Flavour Dilution Number
1	None	None	1
2	None	None	1
3	None	None	1

On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 4.

**Appearance of Water BS 6920: Part 1: 2014, Clause 5 - 45°C**

**Methodology:** BS 6920: Part 2: Section 2.3 and in-house methods PROC/MAT 004, PROC/MAT 027 (colour) and PROC/MAT 030 (turbidity).

Date Leaching Test Started: 1-SEP-2020

***First Extract***

Name	Blank	Extract	Test Sample Effect
Colour (Hazen)	<2	<2	<2
Turbidity (FNU)	0.100	0.127	0.027

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 5.**



## Growth of Microorganisms BS 6920: Part 1: 2014, Clause 6

**Methodology:** BS 6920: Part 2: Section 2.4 and in-house method PROC/MIC 001.

Date Test Started: 1-SEP-2020

Incubation temperature: (30 ±1) °C

Units: mg L<sup>-1</sup>O<sub>2</sub>

Mean Dissolved Oxygen Difference	Day 49
Test Sample	0.5
Positive Reference (paraffin wax)	7.4
Negative Reference (glass)	-0.3

Mean Dissolved Oxygen	Day 49
Test Water Control	7.8

**Comments:** At the end of this test, the test sample showed no change in colour or appearance.

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 6.**

**Extraction of substances that may be of concern to public health BS 6920: Part 1: 2014, Clause 7 - 23°C**

**Methodology:** BS 6920: Part 2: Section 2.5 and in-house methods PROC/MAT 004 and PROC/MIC 004.

Date Leaching Test Started: 6-OCT-2020

Cell concentration used:  $5 \times 10^5$

Cell morphology: Confluent growth of elongated cells, some round cells and cell debris. Media orange/pink in colour.

Sample/Control	Cell Morphology	Response
<b>Test Sample</b>	Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour.	Non-Cytotoxic
<b>Blank</b>	Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour.	Non-Cytotoxic
<b>Negative Control</b>	Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour.	Non-Cytotoxic
<b>Positive Control</b>	All cells rounded and mainly still in suspension. Media pink in colour.	Cytotoxic

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 7.**

**Extraction of substances that may be of concern to public health BS 6920: Part 1: 2014, Clause 7 - 45°C**

**Methodology:** BS 6920: Part 2: Section 2.5 and in-house methods PROC/MAT 004 and PROC/MIC 004.

Date Leaching Test Started: 1-SEP-2020

Cell concentration used:  $5 \times 10^5$

Cell morphology: Confluent growth of elongated cells, some round cells and cell debris. Media orange/pink in colour.

Sample/Control	Cell Morphology	Response
<b>Test Sample</b>	Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour.	Non-Cytotoxic
<b>Blank</b>	Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour.	Non-Cytotoxic
<b>Negative Control</b>	Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour.	Non-Cytotoxic
<b>Positive Control</b>	All cells rounded and mainly still in suspension. Media pink in colour.	Cytotoxic

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 7.**

**Extraction of Metals BS 6920: Part 1: 2014, Clause 8 - 45°C**

**Methodology:** BS 6920: Part 2: Section 2.6 and in-house methods PROC/MAT 006 (leachate preparation) and PROC/ING 003 (ICPMS analysis).

Date Leaching Tests Started: 26-OCT-2020

**First Extract**

Metal (µg/L)	MAC (µg/L)	LOD (µg/L)	Blank (µg/L)	Sample 1 (µg/L)	Sample 2 (µg/L)
Aluminium	200	20	<20	<20	<20
Antimony	5	0.5	<0.5	<0.5	<0.5
Arsenic	10	1	<1	<1	<1
Boron	1000	100	<100	<100	<100
Cadmium	5	0.5	<0.5	<0.5	0.60
Chromium	50	5	<5	<5	<5
Iron	200	20	<20	<20	<20
Lead	10	1	<1	<1	<1
Manganese	50	5	<5	<5	<5
Mercury	1	0.1	<0.1	<0.1	<0.1
Nickel	20	2	<2	<2	<2
Selenium	10	1	<1	<1	<1

Analytical Method - ICPMS Inductively Coupled Plasma Mass Spectrometry  
 MAC - Maximum admissible concentration  
 LOD - Required limit of detection

**On the basis of these results the samples of this product referred to in this report have been found to conform to the requirements of BS 6920: Part 1: 2014, Clause 8.**

<< **Testing Laboratories** >>

	<u>Flag</u>	<u>Id</u>	<u>Address</u>
All work performed at: (Unless otherwise specified)	→	NSF_WALES	NSF Wales Ltd. 30 Fern Close Pen-Y-Fan Industrial Estate, Oakdale Gwent, NP11 3EH UK

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