



Customer: C0273416

Jain Irrigation Systems Ltd
Jain Plastic Park
Bambhori
Jalgaon, MM 425001
India

| | |
|-------------------|---|
| Result | 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 65°C) and cold water. |
| Customer Name | Jain Irrigation Systems Ltd |
| Product | Jain HDPE Fittings PE 100 (Blue) injection moulded, equal tee made from Propel HDPE 002DP48. |
| 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-00438848 |
| Work Order Number | W0790467 |

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 23-JAN-2023

Report Authorisation

Michael Bustin - Materials Testing Manager



0626

Result Summary Section

| Test | Result |
|---|---------------|
| 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 - 65°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 - 65°C | Pass |
| Extraction of Metals BS 6920: Part 1: 2014, Clause 8 - 65°C | Pass |

Sample Details

| | |
|---------------------------------------|--|
| Date of Receipt of Application Form | 25/07/22 |
| Date of Receipt of Product for Test | 15/08/22 |
| Product * | Jain HDPE Fittings PE 100 (Blue) injection moulded, equal tee made from Propel HDPE 002DP48. |
| Nature of Material * | Polyethylene |
| Date Test Sample Manufactured * | 21/06/22 |
| Batch Number * | 202206210662 |
| Receipt Conditions | Good Condition |
| Receipt Packaging | Hessian Plastic Sack |
| Product Manufacturer * | Jain Irrigation Systems Ltd |
| Product Manufacturing Site * | India |
| Tradename and Reference of Product * | Jain HDPE Fittings PE 100 (Blue) |
| Method of Manufacture * | Injection Moulding |
| Typical Use of the Product * | Component in contact with potable water |
| Material Manufacturer * | Indian Oil Corporation Limited |
| Tradename and Reference of Material * | Propel HDPE 002DP48 |
| Nature of Product * | Equal tee fitting |
| Sampling Procedure * | Random |
| Address of Product Manufacturer * | Jain Plastic Park, Bambhori, Jalgaon-425001 |
| Submitting Organization * | Jain Irrigation Systems Ltd |

* denotes customer supplied information

Sample Preparation

| | |
|--|--|
| Description/Appearance of the product | Blue, opaque, rigid tee fitting |
| Max. length | 158.8 mm |
| Max. diameter | 68.2 mm |
| Surface area of one article | 73003.7 mm ² |
| Number of articles constituting a sample | 0.21 |
| Surface area for test | 15015.4 mm ² |
| Calibration mark of test container | 1 L |
| Storage Conditions | As in BS 6920: Part 2: Section 2.1: Clause 5.2 |

Job Attachments:

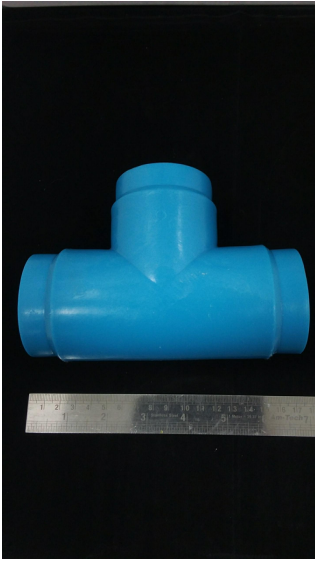


Photo 1.

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: 13-DEC-2022

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 - 65°C

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

Date Leaching Test Started: 13-DEC-2022

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.

Appearance of Water BS 6920: Part 1: 2014, Clause 5 - 65°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: 22-NOV-2022

First Extract

| Name | Blank | Extract | Test Sample Effect |
|-----------------|-------|---------|--------------------|
| Colour (Hazen) | <2 | <2 | <2 |
| Turbidity (FNU) | <0.1 | <0.1 | <0.1 |

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 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-NOV-2022

Incubation temperature: (30 ±1) °C

Units: mg L⁻¹O₂

| Mean Dissolved Oxygen Difference | Day 49 |
|-----------------------------------|--------|
| Test Sample | 0.9 |
| Positive Reference (paraffin wax) | 5.9 |
| Negative Reference (glass) | 0.2 |

| Mean Dissolved Oxygen | Day 49 |
|-----------------------|--------|
| Test Water Control | 8.0 |

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: 23-NOV-2022

Cell concentration used: 5×10^5

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

| Sample/Control | Cell Morphology | Response |
|-------------------------|--|---------------|
| Test Sample | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| Blank | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| Negative Control | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| Positive Control | 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 - 65°C

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

Date Leaching Test Started: 22-NOV-2022

Cell concentration used: 5×10^5

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

| Sample/Control | Cell Morphology | Response |
|-------------------------|--|---------------|
| Test Sample | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| Blank | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| Negative Control | Confluent growth of elongated cells, some round cells and cell debris. Media pink in colour. | Non-Cytotoxic |
| Positive Control | 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 - 65°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: 11-JAN-2023

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 | 23.9 |
| 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 | <0.5 |
| 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** >>

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

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