# PRODUCT MANUAL FOR COPPER ALLOY FANCY SINGLE TAPS, COMBINATION TAP ASSEMBLY AND STOP VALVES FOR WATER SERVICES ACCORDING TO IS 8931: 1993

***This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.***

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|---|---|---|---|
| 1. | **Product** | : | IS 8931 : 1993 |
| | **Title** | : | COPPER ALLOY FANCY SINGLE TAPS, COMBINATION TAP ASSEMBLY AND STOP VALVES FOR WATER SERVICES |
| | **No. of Amendments** | : | 1 |
| | | | |
| 2. | **Sampling Guidelines:** | | |
| a) | **Raw material** | : | Raw material – Clause 5 and Table 1 of IS 8931 : 1993 |
| b) | **Grouping guidelines** | : | Please refer ANNEX – A |
| c) | **Sample Size** | : | 2 Nos for Mechanical test and<br>5 nos – 5 cm x 5 cm for chemical test |
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| 3. | **List of Test Equipment** | : | Please refer ANNEX – B |
| | | | |
| 4. | **Scheme of Inspection and Testing** | : | Please refer ANNEX – C |
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| 5. | **Possible tests in a day :** Please refer ANNEX – D | | |
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| 6. | **Scope of the Licence :** Please refer ANNEX – E | | |
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## ANNEX A

# Grouping Guidelines

1. IS 8931: 1993 covers Single Taps, Combination Tap Assembly and Valves for water services which are classified based on type and nominal size as given below:

**a) Single Taps**

(i) Pillar tap – 15 mm

(ii) Bib Tap – 15 mm

**b) Combination Tap Assembly**

(i) Pillar mounting combination – 15 mm

(ii) Wall mounting combination – 15 mm

**c) Valves**

(i) Stop valve – 15 and 20 mm

(ii) Angle stop valve – 15 and 20 mm

2. Considering the above, grouping guidelines as given below shall be followed for GoL/CSoL :

a) Sample of any size for each type (Single Taps/ Combination Tap Assembly/Valves) shall be tested to cover all sizes of that type.

b) In case of Combination tap assembly, each sub-type (Pillar mounting combination/ Wall mounting combination) shall be tested separately.

3. The Firm shall declare the Types and Nominal Sizes they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.

4. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

## ANNEX B

# List of Test Equipment

***Major test equipment required to test as per the Indian Standard***

| S. No. | Tests used in with Clause Reference | Test Equipment |
|---|---|---|
| 1 | Manufacture, workmanship and construction (Clause 6) | - Thread ring gauges<br>- Vernier calliper<br>- Bore gauges |
| 2 | Dimensions (Clause 7) | - Micrometre<br>- Vernier calliper<br>- Thread ring gauges<br>- Bore gauges<br>- Thread plug gauges |
| 3 | Finish (Clause 8) | - Coat meter or testing arrangement for measuring thickness as per IS 3203<br>- Salt spray cabinet with standard solution as per IS 5528 |
| 4 | Water tightness characteristic (Clause 9.2.1) | - Hydrostatic test apparatus with pressure gauge or<br>- Pneumatic pressure test arrangement<br>- Flow rate regulator<br>- Stop watch |
| 5 | Pressure resistance characteristic (Clause 9.2.2) | |
| 6 | Hydraulic characteristic (Flow rate) (Clause 9.2.3) | |
| 7 | Mechanical strength characteristic (Clause 9.2.4) | - Torque wrench<br>- Stop watch |

***The above list is indicative only and may not be treated as exhaustive.***

## ANNEX C

# Scheme of Inspection And Testing

**1. LABORATORY** - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

**1.1** The manufacturer shall prepare a calibration plan for the test equipment.

**2. TEST RECORDS** – The manufacturer shall maintain test records for the tests carried out to establish conformity.

**3. LABELLING AND MARKING** – As per the requirements of IS 8931: 1993

**4. CONTROL UNIT –** All production of same type, size and shape manufactured from same cast/forged material in one day shall constitute a control unit.

**5. LEVELS OF CONTROL -** The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

**5.1** All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.

**6. REJECTIONS –** Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

## TABLE 1

| (1) | | | | (2) | (3) | | |
|---|---|---|---|---|---|---|---|
| **Test Details** | | | | **Test equipment requirement** R: required (or) S: Sub-contracting permitted | **Levels of Control** | | |
| Cl. | Requirement | Test Methods | | | No. of Sample | Frequency | Remarks |
| | | Clause | Reference | | | | |
| 5 | Material | 5.1 & 9.1 | IS 8931 | S | 1 | Each consignment received | # |
| **6** | **Manufacture, workmanship and construction** | | | | | | |
| | General, casting, forging, plastic moulding & Machining | 6.1 to 6.5 | IS 8931 | - | Each component | - | - |
| | Screw threads | 6.6 | IS 8931 | R | Each component | - | - |
| | Waterway | 6.7 | IS 8931 | R | Each component | - | - |
| | Flow straightening and aerating device | 6.8 | IS 8931 | - | Each component | - | As per manufacturer declaration |
| | Body seat | 6.9 | IS 8931 | R | Each component | - | - |
| | Bonnet assembly | 6.10 | IS 8931 | - | Each component | - | - |
| | Gland packing | 6.11 | IS 8931 | - | Each component | - | - |
| | Flanges | 6.12 | IS 8931 | - | Each component | - | - |
| | Knob | 6.13 | IS 8931 | - | Each component | - | - |
| **7** | **Dimensions** | | | | | | |
| 7.1 | Minimum Thickness | 7.1 | IS 8931 | R | Each component | - | - |
| 7.2 | Body | 7.2.1 to 7.2.6 | IS 8931 | R | Each component | - | - |
| 7.3 | Bonnet assembly | 7.3.1 to 7.3.2 | IS 8931 | R | Each component | - | - |
| 7.3.3 | Washer plate | 7.3.3.1 to 7.3.3.4 | IS 8931 | R | Each component | - | - |
| 7.3.4 | Seat washer | 7.3.4 | IS 8931 | R | Each component | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **8** | **Finish** | | | | | | |
| 8.1 | General | 8.1 & 8.1.1 | IS 8931 | R | Each component | - | - |
| 8.2 to 8.4 | Nickel chromium plating on taps & valves, knobs & knobs components of plastic/zinc base alloy | 8.2 to 8.4 | IS 8931 | R | One sample at the beginning, intermediate and end of plating cycle for each component shall be tested for requirement specified. In case of failure, double the number of samples for that component shall be tested and lot shall be accepted only if the retested samples pass. | | |
| 9.2 | **Performance test** | | | | | | |
| 9.2.1 | Water tightness characteristic | 9.2.1.1 to 9.2.1.4 Annex- B | IS 8931 | R | Each tap/valve | - | - |
| 9.2.2 | Pressure resistance characteristic | 9.2.2.1 to 9.2.2.3 Annex-C | IS 8931 | R | 8 pieces | Each control unit | - |
| 9.2.3 | Hydraulic characteristic (Flow rate) | 9.2.3.1 to 9.2.3.3 Annex-D | IS 8931 | R | 8 pieces | Each control unit | - |
| 9.2.4 | Mechanical strength characteristic | 9.2.4.1 to 9.2.4.4 | IS 8931 | R | 8 pieces | Each control unit | - |

# No further testing is required if accompanied with the Test Certificate or ISI marked.

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.

## ANNEX- D

## Possible tests in a day

(i) Manufacture, workmanship and construction (Clause 6)
(ii) Dimensions (Clause 7)
(iii) Finish (Clause 8)
(iv) Water tightness characteristic (Clause 9.2.1)
(v) Pressure resistance characteristic (Clause 9.2.2)
(vi) Hydraulic characteristic (Clause 9.2.3)
(vii) Mechanical strength characteristic (Clause 9.2.4)

## ANNEX – E

## Scope of the Licence

| Licence is granted to use Standard Mark as per IS 8931 : 1993 with the following scope: | |
|---|---|
| Name of the product | COPPER ALLOY FANCY SINGLE TAPS, COMBINATION TAP ASSEMBLY AND STOP VALVES FOR WATER SERVICES |
| Type and nominal size | Pillar Tap – 15 mm<br>Bib Tap – 15 mm<br>Pillar mounting Combination Tap Assembly – 15 mm<br>Wall mounting Combination Tap Assembly – 15 mm<br>Stop Valves – 15 and 20 mm<br>Angle Stop Valve – 15 and 20 mm |