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| Doc. No. :  PRTD/AR/**PF:03** | Issue No.  :2 | Issue Date  30 Sep. 2020 | **Report of Action Research** |

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| **1.** | **Action Research Project No.**  *(as assigned by PRTD)* | AR/670 |
| **2.** | **Title of the Action Research Project** | Review of Indians Standard IS 12012: 1992 -  Gas taps with or without flame failure device for domestic and commercial liquefied petroleum gas burning appliances - Specification (First Revision) |
| **3.** | **Name & Designation of Officer** | M. Isaac Ginlaldin, Scientist C |
| **4.** | **Employee No.** | 67881 |
| **5.** | **Deptt./BO/RO & Place of Posting** | HRD |
| **6.** | **Date of Approval of the Project** | --- |
| **7.** | **Objective of the Project** | Review of Indians Standard IS 12012: 1992 -  Gas taps with or without flame failure device for domestic and commercial liquefied petroleum gas burning appliances - Specification (First Revision) |
| **8.** | **Report of Action Research Activities** | Attach as per Annexure I |
| **9.** | **Conclusion & Recommendations** | As per Annexure I |
| **10.** | **Any other relevant information** | As per Annexure I |

# H (HRD)

**H(PRTD)**

Sd/-

(M. Isaac Ginlaldin) Scientist C, DLBO-I Date: 28-01-2022

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| Doc. No. : PRTD/AR/**PF:04** | Issue No. : 1 | Issue Date 28 Apr 2020 | **DECLARATION OF ORIGINAL WORK** |

# DECLARATION OF ORIGINAL WORK

I, M. Isaac Ginlaldin, Employee No. 067881 hereby declare that the Action Research Project titled “Review of Indians Standard IS 12012: 1992 - Gas taps with or without flame failure device for domestic and commercial liquefied petroleum gas burning appliances - Specification (First Revision)” is the original research work done by me. I have not copied from any other Action Research Project or any other work of similar nature and topic done by any person/institution/body either published or yet to be published. Data and information from other sources, used if any, have been with prior permission, wherever required and is duly acknowledged appropriately in the project report submitted by me.

This declaration is made on the 28th day of January, 2022.

Sd/-

(M. Isaac Ginlaldin)

Scientist C, HRD

Date: 28-01-2022

ANNEXURE I

REVIEW ANALYSIS OF INDIAN STANDARD

1. Sectional Committee No. & Title: HMD 23, Domestic and Commercial Gas Burning Appliances Sectional Committee
2. IS No: IS 12012: 1992
3. Title: Gas Taps with or without Flame Failure Device for Domestic and Commercial Liquefied Petroleum Gas Burning Appliances - Specification
4. Date of review: 28-01-2021
5. Review Analysis
6. Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

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| Standard  (No. & Title) | Whether the standard has since been revised | Major changes | Action proposed |
| BS 5494 : 1978 Specification for gas tap for domestic and catering appliances | BS 5494: 1978 is superseded by BS EN 1106:2001 followed BS EN 1106:2010 (This supersedes EN 1106:2001) -  Manually operated taps for gas burning appliances | a) scope is enlarged to maximum inlet pressures up to and including 50 kPa (500 mbar);  b) alignment with EN 13611:2007;  c) updating of Clause 2, Normative references;  d) requirements from EN 126:2004 relating to "Open and closed position of a tap", "Compensation means  for taps" and "Spring effect in taps" were included  e) requirements and tests relating to durability of elastomers in contact with gas are  now totally aligned with EN 13611:2007. | The IS under review shall be updated as per the latest revised BS EN 1106:2010 |

1. Status of standards referred in the IS

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| Referred standards  (No. & Title) | IS No. of this standards since revised | Changes that are of affecting the standard under review | Action proposed |
| IS 319 : 1989  Free cutting brass bars, rods and sections - Specification (Fourth Revision) | IS 319 : 2007 | Page 8, Annex C (Clause No. 6.1), In second column, first line, Type I of IS 319: 1989 to be replaced as Grade I of IS 319: 2007 | IS under review to be updated with the latest year and as per the revised referred IS |
| IS 410 : 1977  Specification for cold rolled brass sheet, strip and foil (Third Revision) | IS 410 : 1977 | Year needs to be updated. Same is to be included in the reference clause | Needful has been done |
| IS 617 : 1975 Specification for aluminium and aluminium alloys Ingots and castings for general engineering purposes (Second Revision) | IS 617 : 1994 | No changes observed in IS 617: 1994 which may affect IS under review except year and title of the IS | IS under review to be updated with the latest year and title of referred IS |
| IS 742 : 1981 Specification for zinc base alloy die castings (Second Revision) | IS 742 : 1981 | Year needs to be updated. Same is to be included in the reference clause | Needful has been done |
| IS 1264 : 1989  Brass gravity die casting ingots and castings-Specification (third revision) | IS 1264 : 1997 | No changes observed in IS 1264: 1997 which may affect IS under review except year and title of the IS | IS under review to be updated with the latest year and title of referred IS |
| IS 1655 : 1968  Code of practice of manufacture of Zinc alloy pressure die casting (first revision) | IS 1655:1991 | No changes observed in IS 1655: 1991 which may affect IS under review except year and title of the IS | IS under review to be updated with the latest year and title of referred IS |
| IS 2501 : 1985  Specification for copper tubes for general engineering purposes (second revision) | IS 2501 : 1995 | No changes observed in IS 2501: 1995 which may affect IS under review except year and title of the IS | IS under review to be updated with the latest year and title of referred IS |
| IS 4246: 1992  Domestic gas stoves for use with Liquefied Petroleum gases - Specification | IS 4246 : 2002 | No changes observed in IS 4246: 2002 which may affect IS under review except year and title of the IS | IS under review to be updated with the latest year and title of referred IS |
| IS 4454 : Part 4 : 1975 Specification for Steel wires for cold formed spring : Part 4: Stainless spring steel wire for normal corrosion resistance (first revision) | IS 4454 : Part 4 : 2001 | No changes observed in IS 4454: Part 4: 2001 which may affect IS under review except year and title of the IS | IS under review to be updated with the latest year and title of referred IS |
| IS 5116 : 1985 ‘General requirements for domestic and commercial equipment for use  with LPG ( *second revision)* | IS 5116 : 2020 | Page 2, Clause No. 5.1 has to be replaced as “The relevant requirements given in 4 to 18 of section 1 of IS 5116:2020 shall apply” | IS under review to be updated with the latest year and as per the revised referred IS |
| IS 6480 : 1988 Glossary of terms relating to domestic and commercial gas burning appliances (First Revision) | IS 6480 : 1988 | Year needs to be updated. Same is to be included in the reference clause | Needful has been done |
| IS 6912 : 1985 Copper and copper alloy forging stock and forgings (first revision) | IS 6912 : 2005 | No changes observed in IS 6912: 2005 which may affect IS under review except year and title of the IS | IS under review to be updated with the latest year and title of referred IS |
| IS 7608: 1987  Specification for phosphor bronze wires for general engineering purposes (first revision) | IS 7608: 1987 | Year needs to be updated. Same is to be included in the reference clause | Needful has been done |

1. Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc. or of new or revision of existing Indian Standard)

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| Standard  (No. & Title) | Provisions that could be relevant while reviewing the IS | Action proposed |
| BS EN 1106 : 2010 | Scope (Clause No. 1) – The scope may be revised and enlarged as per EN 1106.  Drawing of gas tap as per Fig 1 to 5 of EN 1106 may be incorporated in IS 12012 for reference purpose.  Mechanical parts of the control Cl. 6.2 of EN 1106 requirement may be considered in IS 12012.  Cl. 6.2.101 Operating parts of taps as per EN 1106 requirements may be added in the General requirements Cl. 5 of IS 12012.  Cl. 6.101.2 Turning Angles as per EN 1106 requirements may be incorporated in IS 12012.  Cl. 7.7 Rated Flow rate as per EN 1106 may also be incorporated in IS 12012.  Cl. 7.8 Durability requirement as per EN 1106 may also be incorporated in IS 12012.  Cl. 11 Endurance test as per IS 12012 may be updated as per EN 1106. | These requirements may be incorporated in the revised IS. |

1. Technical comments on the standard received, if any

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| Source | Clause of IS | Comment | Action proposed |
| To be sent for WC |  |  |  |

1. Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)

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| Source | Development | Relevant clause of the IS under review that is likely to be impacted  (Clause & IS No.) | Action proposed |
| Regional Standard | Higher diameter and pressure rating tap, Durability of elastomers and components of tap improved, Spring effect in taps improved.  Turning angle of taps to improve the flow of gas. | Cl. 1, Cl. 5, Cl. 7 and Cl. 10 of IS 12012 | The development may be made in to consideration during revision of IS. |

1. Issues arising out of changes in any related IS or due to formulation of new Indian Standard

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| Related IS and its Title  (revised or new) | Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision | Changes that may be necessary in the Standards under review | Action proposed |
| No such issue arises |  |  |  |

1. Any consequential changes to be considered in other IS

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| Related IS to get impacted | Requirements to be impacted |
| Nil |  |

1. Any other observation:
2. The scope may be enlarged as per BS 1106:2010. The maximum inlet pressures up to and including 50 kPa (500 mbar) of nominal connection sizes up to and including DN 50 for gas tap may be considered.
3. The definitions as per Cl. 3 of IS 12012 may be added as per BS 1106.
4. IS 5116: 1996 is to be changed as IS 5116: 2020 Domestic and Commercial Equipment for Use with LPG — General Requirements (Fourth Revision) in FOREWORD. And BS 5494:19678 ‘Specification for gas tap for domestic and catering applicanses’ is to be replaced as BS EN 1106:2010 ‘Manually operated taps for gas burning appliances.
5. In Annex A, the year and title of IS may be changed as per the latest IS for IS 319: 1989 as IS 319: 2007, IS 617: 1975 as IS 617: 1994, IS 1264: 1989 as IS 1264:1997, IS 1655:1968 as IS 1655:1991, IS 2501: 1985 as IS 2501: 1995, IS 4246:1992 as IS 4246:2002, IS 4454 (Part 4): 1975 as IS 4454 (Part 4): 2001, IS 5116: 1985 as IS 5116:2020 and IS 6912: 1985 as IS 6912: 2005.
6. Definition of Control tap, Tap closure member and Bearing seal is to added in Clause No. 3 Definitions of IS 12012.
7. Cl. 5.1 under general requirement, the clause is to be updated as the relevant requirements given in 4 to 18 of section 1 of IS 5116:2020 shall apply.
8. In Cl. 5.17, ‘13 of IS 5116: 1985’ is to be replaced as 14 of IS 5116: 2020.
9. In Cl. 6.2(b) IS 1655:1968 is to be replaced as IS 1655:1991.
10. Spring Cl. 7, the requirement as per Cl. 6.3.4 of EN 13611: 2019 may be added.
11. IS 5116: 1985 and IS 4246: 1992 is to be replaced as IS 5116: 2020 and IS 4246: 2020 in Clause 8 Connections of IS 12012.
12. The procedure of Endurance test as per Cl. 11.3.3 may be revised as per Cl. 7.102.2.1 of EN 1106:2010.
13. Marking as per Clause No. 15 is to be updated.
14. In ANNEX C, the IS year is to be revised and updated. For Alloy CZ 121 – Type I of IS 319:1989 may be replaced as Grade I of IS 319:2007.
15. Drawing of gas tap as per Fig 1 to 5 of EN 1106 may be incorporated in IS 12012.

Mechanical parts of the control Cl. 6.2 of EN 1106 requirements may be also be incorporated in IS 12012. Cl. 6.2.101 Operating parts of taps, Cl. 6.101.2 Turning Angle, Cl. 7.7 Rated Flow rate and Cl. 7.8 Durability requirements as per EN 1106 requirements may also be incorporated in IS 12012.

1. Recommendations: The standard may be revised in line with BS EN 1106:2010. The observation and comments made on the IS may be considered during revision of IS.

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