

के.मु.वि-2/16: 15298 (Part 4)

दिनांक 10/01/2025

विषय: संशोधित आई एस 15298 (Part 4) : 2024 के अनुपालन के दिशानिर्देश

- 1) यह उपरोक्त विषय के संदर्भ में है।
- 2) सक्षम अधिकारी द्वारा अनुमोदित दिशानिर्देश अनुपालन हेतु संलग्न है।
- 3) सभी क्षेत्रीय/शाखा कार्यालयों से अनुरोध है की दिशानिर्देशों का तत्काल प्रभाव से अनुपालन सुनिश्चित करें।

(अमित चौधरी)
वैज्ञानिक D

प्रमुख (केमूवी 2)

सभी क्षेत्रीय/शाखा कार्यालय/प्रयोगशालाएँ/CHD/LRMD

CENTRAL MARKS DEPARTMENT-2

Our Ref: CMD-2/16: 15298 (Part 4)

10/01/2025

Subject: Guidelines for Implementation of revised IS 15298 (Part 4):2024 (Personal Protective Equipment Part 4 Occupational Footwear)

1. This has reference to the subject mentioned above.
2. The Competent Authority has approved the enclosed Guidelines for implementation.
3. All BOs are requested to inform the Applicants and Licensees under their jurisdiction about implementation of the revised Standard.

(Amit Choudhary)
Scientist-D

Head(CMD-2)

All ROs/BOs/ CHD/LRMD

CENTRAL MARKS DEPARTMENT-2

Our Ref: CMD-2/16: 15298 (Part 4)

10/01/2025

Subject: Guidelines for implementation of IS 15298 (Part 4) : 2024, PERSONAL PROTECTIVE EQUIPMENT PART 4 OCCUPATIONAL FOOTWEAR)

1. IS 15298 (Part 4):2017, Personal Protective Equipment Part 4, Occupational Footwear, has been revised to IS 15298 (Part 4):2024.
2. IS 15298 (Part 4):2017, Personal Protective Equipment Part 4, Occupational Footwear, and IS 15298 (Part 4):2024 are under concurrent running till 29th January 2025 and the last date for implementation of revised IS 15298 (Part 4):2024 is 29th January 2025.
3. The product in under mandatory certification. There are currently 26 Licence in India for IS 15298 (Part 4):2017 and 1 applications pending for GOL in India.
4. The major changes in IS 15298 (Part 4) due to the revision in comparison to IS 15298: 2017 is given below for general guidance:

Major Changes in 15298 Part 4 (2017) in comparison to revised IS 15298 (Part 4):2024

Sl no	Clause No	Change
1.		Reference of ISO 20344:2011 has been changed to ISO 20344:2021
2.	3.2	Definition of Upper has been added
3.	3.3, 3.3.1	<i>“Imputrescible”</i> word has been replaced with <i>“imperishable”</i> and definition of full grain and corrected grain leather has been removed.
4.	3.4	Rubber has been redefined as “type of elastic polymeric material which can be vulcanized” in place of “vulcanized elastomers”
5.	3.7	The definition of insock has been modified to cover <i>“removable or non-removable footwear component used to cover completely the insole”</i> in place of <i>“removable or non-removable footwear component used to cover part or all of the insole”</i>
6.		note “Non-removable” means that the insock cannot be removed without being damaged. - deleted
7.	3.7.1	Definition of “seat sock” has been added
8.	3.7.2	Definition of “footbed” is added
9.		Definition of “vamp lining” is deleted
10.		Definition of “quarter lining” is deleted
11.	3.9	In the definition of cleat “Sole” word is replaced with “outsole”
12.	3.10	Definition of “outsole” is added
13.	3.10.1	The definition of rigid outsole is changed and now states <i>“outsole, which can be bent less than an angle of 45° under a load of 30 N”</i> instead of <i>“sole which cannot be bent through an angle of 45° under a load of 30 N”</i>

14.	3.10.2	Definition of multi-layer outsole is added.
15.		Definition for" cellular outsole" has been deleted
16.	3.11	"Penetration" word is replaced with the word " <i>perforation</i> " Now it is stated in the definition of perforation resistant insert as " <i>component placed in the outsole complex or used as an insole simultaneously to provide protection against perforation</i> "
17.		The definition of " seat region, counter area " has been deleted
18.	3.12	Definition of " Scuff caps " has been added
19.	3.13	Definition of " heel area " has been added
20.	3.14	"Conductive footwear" in the heading is changed to " partially conductive footwear " and definition has been modified from " <i>footwear, the resistance of which is in the range of 0 kΩ to 100 kΩ</i> " to " <i>footwear with low electrical resistance between the wearer and the ground, able to dissipate some static electricity</i> "
21.	3.15	Definition of antistatic footwear has been modified from " <i>footwear, the resistance of which is above 100 kΩ and less than or equal to 1 000 MΩ</i> " to " <i>footwear maintaining some electrical resistance between the wearer and the ground, able to dissipate some static electricity</i> "
22.	3.16	Definition of " electrically insulating footwear " has been deleted
23.	3.17	Definition of " specific job-related footwear " has been replaced with " customized Occupational Footwear "
24.	3.18	Definition of hybrid footwear has been added stating that " <i>footwear that cannot be classified as footwear of class I or II</i> ". Definition of hybrid "moulded" footwear and hybrid "mounted" footwear has also been added at CI 3.19.1 and 3.19.2
25.	Figure 1	Figure 1 (a) & (b) of the previous version are replaced along with its title
26.	Figure 2	Figure 2 (of the previous version) is replaced along with its title
27.	Figure 3	Figure on Example <i>parts of hybrid Occupational Footwear</i> , is added
28.	4, Table 1	Definition of Class II has been modified and Classification of Hybrid footwear is added
29.	Figure 4	Under Design A- Low shoe, two more diagrams are added and in the note a sentence is added informing that " <i>This design does not constitute hybrid footwear.</i> "
30.	5.1	The clause has been reframed specifically mentioning all the classes and hybrid footwear. Also the requirement for compliance of customized Occupational Footwear to Table 2 and Annex A has been given.

31.	Table 2	<p>In the Table under classification column “Hybrid mounted” and “moulded” sub column has been added. Also, in the design, “seat region” has been replaced with “Heel area” and “Heel area (design A)” has been added.</p> <p>Word “Sole performance” is replaced with “constructional performance”</p> <p>With slip resistance “symbol ϕ” has been given for “not tested”. “Slip resistance on steel floor with glycerine” is deleted.</p> <p>Tests for Seam Strength, water resistance and Lead Content have been added.</p> <p>Under Upper requirement of “Height of the area where upper requirement apply (Class I)” and “Height of the area where upper requirements apply (Hybrid)” have been added. “Hydrolysis” has been replaced with the word “Resistance to hydrolysis”. Requirement for Chromium VI content has been deleted.</p> <p>Requirement for pH and Chromium VI content has been deleted from the requirements for Lining (vamp and Quarter).</p> <p>“Insole/insock” has been replaced with “Insole/ Insock/Seat sock/Footbed” has been added</p> <p>Under tongue requirements for pH and Chromium VI content have been deleted.</p> <p>Under outsole “Hydrolysis” has been replaced with the word “Resistance to hydrolysis”.</p> <p>Note 2 has been added regarding insole in case of hybrid moulded footwear and class 2 footwear.</p> <p>Under Note 3 has been given and stockings referred therein has been specified as For class II footwear and hybrid moulded footwear</p> <p>It is stated that Footbeds are treated like insocks.</p>
32.	Table 3	<p>Column with requirement for pH and Chromium VI have been removed</p> <p>Note under the table that water permeable test are only for leather and definition of water-permeable insock have been removed</p> <p>Under NOTE 2 Footbeds are treated like insocks has been added</p>
33.	Table 4	<p>In table 4, size of footwear is given for European (earlier France size) and the column for corresponding UK size has been removed. Also under height, for Design B, C, D and E, \geq sign has been incorporated before each of the requirement values.</p>
34.	5.2.3	<p>Definition and requirement of Seat region has been replaced with Heel area</p>
35.	Figure 5	<p>Added for Heel area</p>
36.	5.3.1	<p>Sole performance heading is replaced by constructional performance.</p>
37.	5.3.1.1	<p>In case of absence of insole, presence of permanently attached footbed as an alternate to insock has been provided and now it is given that</p>

		such <i>insock/footbed</i> if present <i>cannot be removed without damaging the footwear and/or the insock/footbed.</i>
38.	5.3.1.2	In the clause for <i>Upper/outsole bond strength</i> , in the first sentence word <i>other than with a stitched sole</i> after footwear has been deleted and a sentence is added at the end that <i>The test is not applicable when the bond has been made by mechanical attachment, e.g. using nails or screws or stitching.</i>
39.	5.3.2.1	<i>With the exception of all-rubber and all-polymeric footwear, footwear fitted with internal toecaps,</i> is replaced with <i>Class I footwear.</i> Requirement for metallic and non-metallic toe caps has now been laid down separately, in place of the requirements specified earlier A note has been provided providing that <i>Several types of toecaps (e.g. metallic, non-metallic, type A and B, etc.) are available for the choice of the footwear manufacturer.</i>
40.	Table 5	In table 5 column for English and French has been replaced with European size of footwear.
41.	5.3.2	In the Clause it has been added that <i>For design A of class II footwear, this requirement is not applicable.</i>
42.	5.3.3	In the clause it has been added that If the footwear is rigid in accordance with ISO 20344:2021, 8.5, then question 4.3 of ISO 20344:2021, Table 2 is not applicable.
43.	5.4.1.1	Determination of the area for upper requirements has been made specific for Class I footwear. <i>minimum height</i> of the area of upper is replaced with <i>upper below the height</i> and it is also stated that the tests are to be done <i>except for water vapour permeability and water vapour coefficient.</i> Table is renumbered as table 6 with deletion of the word <i>minimum</i> from the title. Subsequent table are renumbered accordingly. In table 6 column for English and French has been replaced with European size of footwear.
44.	5.4.1.2	New clause for <i>Hybrid footwear, determination of the area where upper requirements apply</i> has been added
45.	Figure 6	New Figure for Measurement of "H" has been added
46.	Table 9	In the table for Tensile properties the value of requirement of Modulus at 100 % elongation for Polymeric material has been changed from "1.3 to 4.6" to ≥ 1.0
47.	5.4.5	A sentence with requirement for <i>No damages, like e.g. pinholes and cracks, shall be visible to the unaided eye</i> has been added at the end of the clause.
48.	5.4.6	Reference to Cl 6.7 of ISO 20344:2021, has also been included in the test method. A statement has been included at the beginning of para that <i>If the upper contains an area of maximum 10 % of non-water vapour permeable material, measured according to ISO 20344:2021+Amd.1:2024, 6.2.3, all remaining materials shall</i>

		<p>fulfil the requirement of <i>water vapour permeability of at least 0,8 mg/(cm²·h) and the water vapour coefficient shall be at least 15 mg/cm²</i></p> <p>Second point under the clause has been added on the applicability of water vapour permeability in case <i>upper contains an area of maximum 50 % of non-water vapour permeable material</i></p>
49.		test for pH and chromium vi has been deleted and subsequent clauses renumbered
50.	5.4.7	Heading of the clause changed from <i>Hydrolysis</i> to <i>Resistance to hydrolysis</i>
51.	5.5	From the heading of the Clause <i>Vamp and quarter</i> words have been deleted
52.	5.5.1	A <i>General</i> Clause has been added providing reference of test for class 1, class II and hybrid footwear. The subsequent clauses are renumbered
53.	5.5.4	Reference to Cl 6.7 of ISO 20344:2021, has also been included in the test method. A para as second para has been added stating <i>No test is required, when lining material is present only in the heel area (5.2.3). When there is no stiffener or the stiffener is perforated, the material shall comply also WVP and WVC..</i>
54.		Requirements for pH and chromium VI has been deleted for lining and tongue
55.	5.7	Footbed had been added in the title of the clause
56.		Requirements for pH and chromium VI have been deleted
57.	5.7.2	Requirement for water permeability has been included
58.	5.7.3	<p>A new para (Second) has been added stating that <i>When the insole is covered by a lining, the test piece shall be taken from both, the lining and insole in combination.</i></p> <p>Another para (third) has been added stating <i>The requirement is not applicable for the insoles, where a membrane construction fulfilling the requirement "WR" covers the insole."</i></p>
59.	5.7.4,1	The requirement now specifies that the thickness <i>in the tested area after 400 cycles shall not be less than 66 % of the original thickness</i> instead of comparison with the <i>reference test pieces</i> . It is also now given that <i>"No abrasion test on the insole is required if the lining or a part of the lining completely covers the insole."</i>
60.	5.8.1	A general clause has been added stating applicability of <i>basic outsole requirements shall be tested on materials in contact with the floor during footwear use</i> . It is also stated that for <i>hybrid footwear, the requirements of class I or class II footwear outsoles apply</i>
61.	5.8.2.1	In the first para, reference to Figures 37, 38 and 39 of ISO 20344:2021 has been given.

		A new para has been added stating that <i>The thickness of the full outsole material d4 of a mounted (cemented) outsole with cavities shall not be less than 2,0 mm (see ISO 20344:2021, Figure 40).</i>
62.	5.8.2.3	Cleated and non-cleated has been categorized separately for <i>Class I and hybrid mounted footwear</i> and <i>Class II Footwear and hybrid moulded footwear</i>
63.	5.8.4	Requirement of outsoles of hybrid moulded footwear has been added.
64.	5.8.5	<p>A sentence has been added stating that <i>This requirement is not applicable for rigid outsoles.</i> Under acceptability of Spontaneous cracks a) <i>Only the centre of the tread area shall be assessed for cracking, i.e. cracks under the toecap zone shall be ignored.</i> b) <i>Superficial cracks up to 0,5 mm deep shall be ignored</i> have been deleted.</p> <p>It is also stated that <i>For footwear with metallic insert, any damage of the insert shall not be taken into account</i> and a note is provided in which is given that <i>The flexing resistance of metallic inserts is assessed according to 6.2.1.4.1.</i></p>
65.	5.8.6	Title of the clause <i>Hydrolysis</i> is replaced with <i>Resistance to hydrolysis</i>
66.	Table 14	<p>In the Table under classification, columns for <i>Hybrid mounted</i> and <i>Hybrid moulded</i> have been added and applicability of various requirements have been specified.</p> <p><i>penetration resistance</i> words are replaced by <i>perforation resistance</i> and bifurcated for metal and non metal insert. Perforation resistance (non-metal insert) is further sub categorized into type PL and Type PS. Applicability of requirements for various classification are given separately for perforation resistance category (Metal and non-metal) and for sub types of non- metal inserts (PL and PS). Symbol for type PL and Type PS has also been provided.</p> <p><i>Conductive footwear</i> has been renamed as <i>partially conductive footwear</i></p> <p>Under Requirement column <i>electrically insulating footwear</i> category of Electrical properties has been deleted</p> <p><i>Sole</i> word is replaced by <i>outsole</i></p> <p>Requirements of <i>Scuff cap</i> and <i>Slip resistance</i> for whole footwear have been added and test applicability is specified for different classification. Symbol has been included for the tests</p> <p>For outsole <i>Ladder grip</i> requirement has been added and test applicability is specified for different classification. Symbol has been included for the tests.</p>
67.	6.2.1	In the clause and subsequent clauses <i>penetration</i> word is replaced by <i>perforation</i>
68.	6.2.1.1.3 & 6.2.1.1.4	Requirements given separately for <i>Non-metallic perforation-resistant inserts and insoles (Type PL)</i> and <i>Non-metallic perforation-resistant inserts and insoles (Type PS)</i> at Cl 6.2.1.1.3 & Cl 6.2.1.1.4, respectively.

69.	6.2.1.2	Requirements for non-metallic inserts has been included
70.	Figure 7	Figure 7 added for <i>Skiving area at toecap flange region</i>
71.	6.2.1.3	It has been given that <i>If the non-metallic perforation resistant insert is used as an insole (e.g., Strobel, cemented lasted) the above allowances are not applicable and "Non metallic perforation resistant inserts and insoles shall have no holes other than those created by stitching.</i> The test for metallic perforation-resistant insert has been specified at para 4
72.	6.2.1.4.1	<i>Flex resistance of perforation-resistant inserts</i> has now made a sub clause under <i>Behaviour of perforation-resistant inserts</i> . Word <i>flex cycles</i> has been replaced with <i>flexion cycles</i>
73.	6.2.1.4.2.1 & 6.2.1.4.2.2	Requirement for <i>Corrosion resistance of perforation-resistant metallic inserts</i> has been given separately for <i>Class I footwear and hybrid mounted footwear</i> and <i>Class II footwear and hybrid moulded footwear</i> at Clauses 6.2.1.4.2.1 & 6.2.1.4.2.2, respectively. Number of areas of corrosion has been reduced from five to three and the dimension of the area has been changed from 2,5 mm ² to 2 mm
74.		Clause on <i>Penetration-resistant non-metallic inserts</i> has been deleted
75.	6.2.1.4.3	A new clause on <i>Stability against ageing and environmental influence of non-metallic perforation resistant inserts</i> has been added
76.	6.2.2.1	<i>Conductive footwear</i> has been renamed as <i>Partially conductive footwear</i>
77.		Clause on <i>Electrically insulating footwear</i> has been deleted
78.	6.2.3.1	Tolerance of ± 5 °C to the hotplate temperature of 150°C and tolerance of 1 min on the time of 30 min have been introduced. The second para is modified by replacing <i>the footwear shall conform to the requirements given in ISO 20344:2011, Annex B</i> with <i>shall not show any sign of degradation as described in ISO 20344:2021, A.2.</i>
79.	6.2.5	The requirement of <i>total wetted area inside the footwear shall be not greater than 3 cm²</i> has been replaced with <i>No water penetration inside the footwear shall be detected.</i>
80.	6.2.6	The clause has been modified. It is now provided that <i>Ankle protectors, placed in the footwear, do not necessarily need to be of a unified shape, but they shall match, when tested according to ISO 20344:2021, 5.21, at least the circular sizes given in Table 15.</i>
81.	Table 15	A new table has been added on <i>Dimensions for ankle impact zones</i> , and the subsequent tables renumbered
82.	6.2.8	Requirement for Scuff cap has been added
83.	6.2.9	Requirement for Slip resistance has been added

84.	Table 16	A new table on <i>Requirements for footwear resistant to slip on ceramic tile floor with glycerine</i> has been added along with a note and subsequent tables renumbered
85.	6.3	A tolerance of ± 1 min has been introduced in the test duration of 60 min.
86.		Requirement for <i>Cleated area, Thickness of cleated outsoles and Cleat height</i> have been deleted.
87.	6.4.1	The restriction on the applicability of the test on outsoles made rubber and polymeric material has been removed.
88.	6.4.2	The increase in volume has been made specific by stating <i>volume of all visible outsole materials in contact with the floor</i>
89.	6.4.3	Requirement for Ladder grip has been added
90.	7 (NATIONAL ANNEX B)	Under Packaging, the requirement for supply of following information with pair of boot have been deleted. f) Wherever applicable, declaration to be made stating footwear is not for use in fire hazard/explosion prone areas/hot contact/electric resistance purpose, g) The footwear is not a GREEN footwear and not bio-degradable.
91.	Table 17	For category O1 under additional requirement column, <i>as OB, plus</i> has been added. <i>Seat region</i> is replaced with <i>Heel area</i> OB3 category has been split into <i>O3 (metal insert type P)</i> , <i>O3L (non-metal insert type PL)</i> or <i>O3S (non-metal insert type PS)</i> . For O4 category, a new symbol <i>as OB,plus, plus</i> has been introduced. <i>Heel area</i> replaces <i>seat region</i> . Resistance to fuel oil has been deleted O5 category has been split into <i>O5 (metal insert type P)</i> , <i>O5L (non-metal insert type PL)</i> or <i>O5S (non-metal insert type PS)</i> . Category O7 (metal insert type P), O7L (non-metal insert type PL), O7S (non-metal insert type PS) have been introduced as O3, plus, and basic requirements and additional requirements have been specified under the respective columns NOTE 2 has been added stating the <i>If the footwear is not tested against slip resistance requirement, it is marked with symbol "Ø"</i> . <i>Hybrid footwear shall be marked "OBH". For any additional marking, see Table 16, sentence has been incorporated under table 20</i>
92.	Annex A	Normative Annex A for <i>Customized Occupational Footwear (Occupational Footwear adapted to fit an individual user or a single unit to fit an individual user)</i> has been added
93.	Annex B	An informative Annex B has been added for <i>Assessment of the footwear by the wearer</i>

94.	Annex C	An informative Annex C has been added for <i>Slip Resistance</i>
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5. The existing Product manual has been revised to incorporate the changes due to the revised IS and it is being circulated separately, through BIS website, as Product Manual Doc: PM/IS 15298 (Part 4) /2 January 2025.
6. The guidelines for implementation of the revised IS are as given below:
 - A. LICENSEES:
 - a) Licensee shall implement the revised Indian Standard by 29th January 2025. Any difficulty in implementation shall be brought to the notice of CMD-2 within 30 days from the date of issuance of these guidelines. BO shall ensure that the no Licence is under operation as per IS 15298 (Part 4): 2017 (old standard) after 29th January 2025. The status of implementation of the revised Indian Standard shall be confirmed by Head (BO) to CMD-II within two weeks of the last date of implementation of concurrent running.
 - b) Requirements like seam strength, lead content, thickness of outsole, scuff cap, ladder grip, Stability against ageing and environmental influence of non-metallic perforation resistant inserts have been added. Licensee is required to submit evidence of conformity through In-house/Independent Test Reports for the footwear against all the requirements of the revised IS.
 - c) Licensee shall submit declaration for additional Testing equipment in Form no 2 as applicable, if testing of the parameter is done inhouse or submit details of arrangement for testing of the parameters from independent lab (Subcontracting of the tests), in accordance with the Scheme of Inspection and testing/QAP submitted by manufacturer.
 - d) A new Class has been added in the revised Indian Standard. i.e., Hybrid footwear. If Licensee intends to cover this Class of Occupational Footwear in the scope of licence, the case shall be processed as per the guidelines for change in scope of Licence
 - e) BOs shall align scope of the licence as per the revised Product Manual.
 - f) Verification of implementation of IS 15298 (Part 4): 2024, shall be done through a surveillance visit preferably within 30 days of confirmation of implementation of the standard by licensee.
 - g) If the Licensee fails to complete all actions by 29th January 2025, it shall be dealt with as per the prevailing guidelines.
 - B. APPLICATIONS FOR GRANT OF LICENCE:
 - a) Existing Applications for GOL where Sample has been submitted in the Laboratory/Test Report has been issued by the Laboratory may be processed as per the old standard i.e. IS 15298 (Part 4) : 2017. A declaration may be obtained from the Applicant that the

Licence, if granted shall be switched over to IS 15298 (Part 4) : 2024 before the last date of concurrent running of the ISs. BOs shall ensure that such licenses granted are switched over to the IS 15298 (Part 4) : 2024 before the last date of withdrawal of IS 15298 : 2017, i.e., 29th January 2025. If, however, the Applicant is desirous of considering the Application as per IS 15298 (Part 4) : 2024, a declaration may be obtained from the Applicant to the effect and the Application may be processed accordingly. An undertaking from such Applicants shall also be obtained that if the sample fails considering IS 15298 (Part 4) : 2024, Licence will not be granted by BIS as per IS 15298 (Part 4): 2017.

- b) Applications which are recorded henceforth may be processed as per the IS 15298 (Part 4): 2017/ IS 15298 (Part 4) : 2024. Processing of Applications as per the old Standard, shall be permitted only upto 28th January 2025. For such cases Applicant shall give a declaration that they will switchover to IS 15298 (Part 4) : 2024 by 29th January 2025
- c) Beyond 29nd January 2025, no Licence shall be granted as per IS 15298: 2017.

C. CHANGE IN SCOPE OF LICENCE:

- i. For change in scope of licence, the relevant provisions as given above for Applicants shall apply.
 - ii. However, processing of such applications for change in scope of licence as per the old Standard shall be permitted only up to the date of switchover to the IS 15298 (Part 4) : 2024.
7. BOs are requested to circulate this guideline to licensees and applicants immediately within 7 days of issuance of this circular.
8. The above guidelines come into force with immediate effect.

(Amit Choudhary)
Scientist D

Head (CMD-2)
DDG(Certification)
Circulated to:
All RO/BOs
All other concerned - through BIS intranet