BUREAU OF INDIAN STANDARDS

Program of Work

CHD 27 : Thermal Insulation

Scope: To formulate Indian Standards for terminology; methods of sampling and test; code of practice including decommissioning and disposals aspects of thermal insulating materials; specification for thermal insulation materials and cellular insulations (excluding cork and lingo-cellulesic materials)

Liaison: **ISO TC-163 (P):** *Thermal performance and energy use in the built environment* **ISO TC-163 SC-1 (O):** *Test and measurement methods* **ISO TC-163 SC-2 (O):** *Calculation methods* **ISO TC-163 SC-3 (O):** *Thermal insulation products, components and systems*

Published Standards

S.No	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS 10555 : 2002 Reviewed In : 2024	Exfoliated vermiculite - Specification (First Revision)	April, 2024	-	Indigenous
2	IS 10556 : 2014 Reviewed In : 2024	Storage and handling of thermal insulation materials Code of practice (First Revision)	May, 2024	-	
3	IS 11128 : 2018 Reviewed In : 2023	Spray applied hydrated calcium silicate thermal insulation	May, 2023	-	Indigenous
4	IS 11129 : 2018 Reviewed In : 2023	Method of test for tumbling friability of preformed block - Type thermal insulation (First Revision)	March, 2023	-	Indigenous
5	IS 11239 (Part 1) : 2009 ISO 1923:1981 Reviewed In : 2024 ISO 1923:1981	Methods of test for rigid cellular thermal insulation materials: Part 1 dimensions	April, 2024	-	Identical under dual numbering
6	IS 11239 (Part 2) : 2019 ISO 845 : 2006 Reviewed In : 2024 ISO 845:2006	Method of test for rigid cellular thermal insulation materials: Part 2 apparent density (Second Revision)	March, 2024	-	Identical under dual numbering
7	IS 11239 (Part 3) : 2009 ISO 2796 Reviewed In : 2024 ISO 2796:1986	Method of test for rigid cellular thermal insulation materials: Part 3 dimensional stability (First Revision)	April, 2024	-	Identical under dual numbering
8	IS 11239 (Part 4) : 2014 ISO 1663 : 2007 Reviewed In : 2024 ISO 1663 : 2007	Method of test for rigid cellular thermal insulation materials: Part 4 water vapour transmission rate (First Revision)	April, 2024	-	Identical under dual numbering
9	IS 11239 (Part 5) : 2019	Method of test for rigid cellular thermal insulation materials: Part 5	March, 2024	-	Identical under dual numbering

	ISO 4590 : 2016 Reviewed In : 2024 ISO 4590:2016	volume percent of open and closed cells (Second Revision)			
10	IS 11239 (Part 6) : 1985 Reviewed In : 2024	Methods of test for rigid cellular thermal insulation materials: Part 6 heat distortion temperature	April, 2024	-	Indigenous
11	IS 11239 (Part 7) : 1985 Reviewed In : 2024	Methods of test standard for rigid cellular thermal insulation materials: Part 7 coefficient of linear thermal expansion at low temperatures	April, 2024	-	Indigenous
12	IS 11239 (Part 8) : 1985 Reviewed In : 2024	Methods of test for rigid cellular thermal insulation materials: Part 8 flame height, time of burning and loss of mass	April, 2024	-	Indigenous
13	IS 11239 (Part 9) : 1988 Reviewed In : 2024 ISO 2896	Methods of test for rigid cellular thermal insulation materials: Part 9 water absorption	April, 2024	-	Not Equivalent
14	IS 11239 (Part 10) : 1985 Reviewed In : 2024	Methods of test for rigid cellular thermal insulation materials: Part 10 flexural strength	April, 2024	-	Indigenous
15	IS 11239 (Part 11) : 1985 Reviewed In : 2024	Methods of test for rigid cellular thermal insulation materials: Part 11 compressive strength	April, 2024	-	Indigenous
16	IS 11239 (Part 12) : 1988 Reviewed In : 2024	Methods of test for rigid cellular thermal insulation materials: Part 12 horizontal burning characteristics	April, 2024	-	Indigenous
17	IS 11239 (Part 13) : 1992 Reviewed In : 2024	Methods - Of test for rigid cellular thermal insulation materials: Part 14 determination of flammability by oxygen index	April, 2024	1	Indigenous
18	IS 11307 : 1985 Reviewed In : 2022	Specification for cellular glass block and pipe thermal insulation	June, 2022	-	Indigenous
19	IS 11308 : 1985 Reviewed In : 2022	Specification for hydraulic setting thermal insulating castables for temperatures up to 1 250°C	June, 2022	-	Indigenous
20	IS 11308 : 2024	Hydraulic Setting Thermal Insulating Castables for Temperatures up to 1 250 Â°C â€" Specification (First Revision)		-	Indigenous
21	IS 12432 (Part 1) : 1988 Reviewed In : 2022	Code of practice for application of spray applied insulation: Part 1 mineral fibre	June, 2022	-	Indigenous
22	IS 12432 (Part 2) : 1999 Reviewed In : 2022	Application of spray insulation - Code of: Part 2 calcium silicate	June, 2022	-	Indigenous
23	IS 12432 (Part 3) : 2002 Reviewed In : 2024	Application of spray applied insulation - Code of practice: Part 3 polyurethane/polyisocyanurate	April, 2024	1	Indigenous
24	IS 12436 : 1988 Reviewed In : 2022	Specification for preformed rigid polyurethane (Pur) and polyisocyanurate (Pir) foams for thermal insulation	June, 2022	1	Indigenous
25	IS 13204 : 2024	Rigid Phenolic Foam for Thermal Insulation â€" Specification (First Revision)		-	Indigenous
26	IS 13204 : 1991	Rigid phenolic foam for thermal	June, 2022	2	Indigenous

	Reviewed In : 2022	insulation - Specification			
27	IS 13205 : 2023	Application of Polyurethane Insulation by the In-Situ Pouring Method ? Code of Practice (First Revision)		-	Indigenous
28	IS 13286 : 1992 Reviewed In : 2022	Surface spread of flame for thermal insulation materials - Methods of test	June, 2022	1	Indigenous
29	IS 14164 : 2008 Reviewed In : 2024	Industrial application and finishings of thermal insulation materials at temperatures above - 80°C and up to 750°C - Code of practice (First Revision)	April, 2024	2	Indigenous
30	IS 14656 : 1999 Reviewed In : 2022	Ceramic fibre products - Methods of test	June, 2022	-	Indigenous
31	IS 15402 : 2003 Reviewed In : 2024	Ceramic fibre blanket insulation - Specification	April, 2024	1	Indigenous
32	IS 16203 : 2016 Reviewed In : 2021	Prefabricated polyurethane sandwich panels - Specification	October, 2021	-	Indigenous
33	IS 18652 : 2024 ISO 12241 : 2022 ISO 12241 : 2022	THERMAL INSULATION FOR BUILDING EQUIPMENT AND INDUSTRIAL INSTALLATIONS CALCULATION RULES		-	Identical under dual numbering
34	IS 3069 : 2020 Reviewed In : 2024	Glossary of Terms, Symbols and Units Relating to Thermal Insulation Materials (Second Revision)	April, 2024	-	Indigenous
35	IS 3144 : 1992 Reviewed In : 2022	Mineral wool thermal insulation materials - Method of test (Second Revision)	June, 2022	3	Indigenous
36	IS 3346 : 1980 Reviewed In : 2022	Method for the determination of thermal conductivity of thermal insulation materials (Two Slab, Guarded Hot - Plate Method) (First Revision)	June, 2022	-	Indigenous
37	IS 3677 : 1985 Reviewed In : 2022	Specification for unbonded rock and slag wool for thermal insulation (Second Revision)	June, 2022	1	Indigenous
38	IS 4671 : 2018 Reviewed In : 2023	Expanded polystyrene for thermal insulation purposes	July, 2023	-	Indigenous
39	IS 5688 : 2018 Reviewed In : 2023	Methods of Test for Preformed Block-Type and Pipe-Covering Type Thermal Insulation (Second Revision)	January, 2023	-	Indigenous
40	IS 5724 : 2018 Reviewed In : 2023	Thermal insulating cements - Methods of test (First Revision)	July, 2023	-	Indigenous
41	IS 6598 : 2018 Reviewed In : 2023	Cellular concrete for thermal insulation - Specification (First Revision)	June, 2023	-	Indigenous
42	IS 661 : 2019 Reviewed In : 2024	Thermal insulation of cold storage - Code of practice (Fourth Revision)	March, 2024	-	Indigenous
43	IS 7509 : 2024	Thermal Insulating Cements ï¿½Specification (Second Revision)		-	Indigenous
44	IS 8154 : 2024	Preformed Calcium Silicate Insulation (For temperatures up to		-	Indigenous

		650ï¿½C) ï¿½ Specification (Second Revision)			
45	IS 8183 : 1993 Reviewed In : 2022	Bonded mineral wool - Specification (First Revision)	June, 2022	4	Indigenous
46	IS 8183 : 2024	Bonded mineral wool - Specification		-	Indigenous
47	IS 9403 : 2018 Reviewed In : 2023	Method of test for thermal conductance and transmittance of built - Up Section by means of guarded hot box (First Revision)	April, 2023	-	Indigenous
48	IS 9428 : 1993 Reviewed In : 2022	Preformed calcium silicate insulation (For Temperature Up To 950°C) - Specification (First Revision)	June, 2022	2	Indigenous
49	IS 9428 : 2024	Preformed Calcium Silicate Insulation (For Temperature up to 950 Â°C) â€" Specification (Second Revision)		-	Indigenous
50	IS 9489 : 2018 Reviewed In : 2024	Method of Test for Thermal Conductivity of Thermal Insulation Materials by Means of Heat Flow Meter (First Revision)	May, 2024	-	Indigenous
51	IS 9490 : 2018 Reviewed In : 2023	Method for determination of thermal conductivity of thermal insulation materials (Water Calorimeter Method) (First Revision)	August, 2023	-	Indigenous
52	IS 9742 : 2024	Sprayed Mineral Wool Thermal Insulation ï¿½ Specification (Second Revision)		-	Indigenous
53	IS 9743 : 2020 Reviewed In : 2024	Thermal Insulation Finishing Cement — Specification (Second Revision)	April, 2024	-	Indigenous
54	IS 9842 : 1994 Reviewed In : 2019	Preformed fibrous pipe insulation - Specification (First Revision)	June, 2019	2	Indigenous
55	IS 9842 : 2024	Preformed fibrous pipe insulation - Specification		-	Indigenous

Standards under Development

Projects Approved

SI. No.	Doc No.	Title
No Records Found		

Preliminary Draft Standards

SI. No.	Doc No.	Title
1	CHD 27 (25732)	Fire Performance for Thermal Insulation Materials to be Used in Building Equipments or Building Structures - Method of Test
2	CHD 27 (25792)	Flexible Aerogel blanket - Specification

Drafts Standards in WC Stage

SI. No.	Doc No.	Title
1	CHD 27 (25762) Revision of: IS 11307:1985	Cellular Glass Block and Pipe Thermal Insulation - Specification First revision

Draft Standards Completed WC Stage

SI. No.	Doc No.	Title
1	CHD 27 (24897) Revision of: IS 11307:1985	SURFACE SPREAD OF FLAME FOR THERMAL INSULATION MATERIALS METHODS OF TEST First Revision
2	CHD 27 (24920)	Thermal insulation Determination of steady-state thermal transmission properties of thermal insulation for circular pipes
3	CHD 27 (25020) Revision of: IS 11307:1985	Application of spray applied insulation Code of practice Part 1 Mineral fibre
4	CHD 27 (25021) Revision of: IS 11307:1985	Application of spray applied insulation Code of practice Part 2 Calcium Silicate
5	CHD 27 (25288) Revision of: IS 11307:1985	Methods of Test for Rigid Cellular Thermal Insulation Materials Part 8 Flame Height Time of Burning and Loss of Mass
6	CHD 27 (25291) Revision of: IS 11307:1985	Methods of Test for Rigid Cellular Thermal Insulation Materials Part 11 Compressive Strength

Finalized Draft Indian Standard

SI. No.	Doc No.	Title
No Records Found		

Finalized Draft Indian Standards under Print

SI. No.	Doc No.	Title
1	CHD 27 (20646) Revision of: IS 3144:1992	MINERAL WOOL THERMAL INSULATION MATERIALS - METHOD OF TEST THIRD REVISION

Total Published Standards:49 Total Standards Under development:10

Aspect Wise Report

Product : 18
Code of Practices : 6
Methods of Test : 24
Terminology : 1
Dimensions : 0
System Standard : 0
Safety Standard : 0
Others : 0
Service Specification : 0
Process Specification : 0
Unclassified : 1

Annexure-I :List of Indian Standards Withdrawn/Superseded

SI. No.	IS No. & Year	Title
1	IS 10556 : 1983 Reviewed In : 2004	Code of practice for storage and handling of thermal insulation materials
2	IS 3690 : 1974 Reviewed In : 1990	Unbonded Glass Wool For Thermal Insulation
3	IS 5696 : 1970	Loose mineral wool rock wool and slag wool
4	IS 7240 : 1981 Reviewed In : 1990	Code of practice for industrial applications and finishing of thermal insulating materials at temperature from -80 C to 40 C
5	IS 7413 : 1981	Code of practice for thermal industrial application and finishing of thermal insulating materials at temperature above 40 C to 700 deg C
6	IS 7510 : 1974 Reviewed In : 1990	Thermal insulating cement type 350

7	IS 9350 : 1980 Reviewed In : 1990	Thermal Insulating Cement type 950

Annexure-II :List of Indian Product Standards

SI. No.	IS No. & Year	Title
1	IS 10555 : 2002 Reviewed In : 2024	Exfoliated vermiculite - Specification First Revision
2	IS 11128 : 2018 Reviewed In : 2023 ISO 24516- 1 - 2016	Spray applied hydrated calcium silicate thermal insulation
3	IS 11307 : 1985 Reviewed In : 2022	Specification for cellular glass block and pipe thermal insulation
4	IS 11308 : 2024	Hydraulic Setting Thermal Insulating Castables for Temperatures up to 1 250 C Specification First Revision
5	IS 12436 : 1988 Reviewed In : 2022	Specification for preformed rigid polyurethane Pur and polyisocyanurate Pir foams for thermal insulation
6	IS 13204 : 2024	Rigid Phenolic Foam for Thermal Insulation Specification First Revision
7	IS 15402 : 2003 Reviewed In : 2024	Ceramic fibre blanket insulation - Specification
8	IS 16203 : 2016 Reviewed In : 2021	Prefabricated polyurethane sandwich panels - Specification
9	IS 3677 : 1985 Reviewed In : 2022	Specification for unbonded rock and slag wool for thermal insulation Second Revision
10	IS 4671 : 2018 Reviewed In : 2023 11701 : 2009	Expanded polystyrene for thermal insulation purposes
11	IS 6598 : 2018 Reviewed In : 2023	Cellular concrete for thermal insulation - Specification First Revision
12	IS 7509 : 2024	Thermal Insulating Cements Specification Second Revision
13	IS 8154 : 2024	Preformed Calcium Silicate Insulation For temperatures up to 650 C Specification Second Revision
14	IS 8183 : 2024	Bonded mineral wool - Specification
15	IS 9428 : 2024	Preformed Calcium Silicate Insulation For Temperature up to 950 C Specification Second Revision
16	IS 9742 : 2024	Sprayed Mineral Wool Thermal Insulation Specification Second Revision
17	IS 9743 : 2020 Reviewed In : 2024	Thermal Insulation Finishing Cement Specification Second Revision
18	IS 9842 : 2024	Preformed fibrous pipe insulation - Specification