

# BUREAU OF INDIAN STANDARDS

## Program of Work

### MED 40 : Safety of Machinery

**Scope:** Standardization of basic concepts and general principles for Mechanical safety of manufacturing machinery incorporating terminology, methodology, guards and safety devices within the framework of IS/ISO/IEC Guide 51 (Safety aspects - Guidelines for their inclusion in standards and in cooperation with other sectional committee). Except: Product safety standards, as defined in IS/ISO/IEC Guide 51, and which are explicitly covered by the work of other ISO or IEC technical committees.

**Liaison:** **TC-199 (P): Safety of machinery**

#### Published Standards

S.No	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS/ISO/TR 14121-2:2012 ISO/TR 14121-2:2012 <b>ISO/TR 14121-2:2012</b>	Safety of machinery - Risk assessment Part 2 Practical guidance and examples of methods		-	Identical under single numbering
2	IS 16806 (Part 1):2018 ISO 29042-1 : 2008 <b>Reviewed In : 2023</b> <b>ISO 29042-1:2008</b>	Safety of machinery - Evaluation of the emission of airborne hazardous substances: Part 1 selection of test methods	August, 2023	-	Identical under dual numbering
3	IS 16806 (Part 2):2018 ISO 29042-2 : 2009 <b>Reviewed In : 2023</b> <b>ISO 29042-2:2009</b>	Safety of machinery - Evaluation of the emission of airborne hazardous substances: Part 2 tracer gas method for the measurement of the emission rate of a given pollutant	August, 2023	-	Identical under dual numbering
4	IS 16806 (Part 3):2018 ISO 29042-3 : 2009 <b>Reviewed In : 2023</b> <b>ISO 29042-3:2009</b>	Safety of machinery - Evaluation of the emission of airborne hazardous substances: Part 3 test bench method for the measurement of the emission rate of a given pollutant	August, 2023	-	Identical under dual numbering
5	IS 16806 (Part 4):2018 ISO 29042-4 : 2009 <b>Reviewed In : 2023</b> <b>ISO 29042-4:2009</b>	Safety of machinery - Evaluation of the emission of airborne hazardous substances: Part 4 tracer method for the measurement of the capture efficiency of an exhaust system	August, 2023	-	Identical under dual numbering
6	IS 16806 (Part 5):2018 ISO 29042-5 : 2010 <b>Reviewed In : 2023</b>	Safety of machinery - Evaluation of the emission of airborne hazardous substances: Part 5 test bench method for the measurement	August, 2023	-	Identical under dual numbering

	ISO 29042-5:2010	of the separation efficiency by mass of air cleaning systems with unducted outlet			
7	IS 16806 (Part 6):2018 ISO 29042-6 : 2010 Reviewed In : 2023 ISO 29042-6:2010	Safety of machinery - Evaluation of the emission of airborne hazardous substances: Part 6 test bench method for the measurement of the separation efficiency by mass of air cleaning systems with ducted outlet	August, 2023	-	Identical under dual numbering
8	IS 16806 (Part 7):2018 ISO 29042-7 ; 2010 Reviewed In : 2023 ISO 29042-7:2010	Safety of machinery - Evaluation of the emission of airborne hazardous substances: Part 7 test bench method for the measurement of the pollutant concentration parameter	August, 2023	-	Identical under dual numbering
9	IS 16806 (Part 8):2018 ISO 29042-8 : 2011 Reviewed In : 2023 ISO 29042-8:2011	Safety of Machinery - Evaluation of the Emission of Airborne Hazardous Substances Part 8 Room Method for the Measurement of the Pollutant Concentration Parameter	August, 2023	-	Identical under dual numbering
10	IS 16806 (Part 9):2018 ISO 29042-9 : 2011 Reviewed In : 2023 ISO 29042-9:2011	Safety of machinery - Evaluation of the emission of airborne hazardous substances: Part 9 decontamination index	August, 2023	-	Identical under dual numbering
11	IS 16807:2020 ISO 19353 : 2019 Reviewed In : 2024 ISO 19353 : 2019	Safety of Machinery - Fire Prevention and Fire Protection (First Revision)	July, 2024	-	Identical under dual numbering
12	IS 16808:2018 ISO 14159 : 2002 Reviewed In : 2023 ISO 14159:2002	Safety of machinery - Hygiene requirements for the design of machinery	August, 2023	-	Identical under dual numbering
13	IS 16809 (Part 1):2018 ISO 14122-1 : 2016 Reviewed In : 2023 ISO 14122-1:2016	Safety of machinery - Permanent means of access to machinery: Part 1 choice of fixed means and general requirements of access	August, 2023	-	Identical under dual numbering
14	IS 16809 (Part 2):2018 ISO 14122-2 : 2016 Reviewed In : 2023 ISO 14122-2:2016	Safety of machinery - Permanent means of access to machinery: Part 2 working platforms and walkways	August, 2023	-	Identical under dual numbering
15	IS 16809 (Part 3):2018 ISO 14122-3 : 2016 Reviewed In : 2023 ISO 14122-3:2016	Safety of machinery - Permanent means of access to machinery: Part 3 stairs, stepladders and guard - Rails	August, 2023	-	Identical under dual numbering
16	IS 16809 (Part 4):2018 ISO 14122-4 : 2016 Reviewed In : 2023 ISO 14122-4:2016	Safety of machinery - Permanent means of access to machinery: Part 4 fixed ladders	August, 2023	-	Identical under dual numbering
17	IS 16810 (Part 1):2018 ISO 13849-1 : 2015 Reviewed In : 2023	Safety of machinery - Safety related parts of control systems: Part 1 general principles for design	August, 2023	-	Identical under dual numbering

	ISO 13849-1:2015				
18	IS 16810 (Part 2):2018 ISO 13849-2 : 2012 Reviewed In : 2023 ISO 13849-2:2012	Safety of machinery - Safety related parts of control systems: Part 2 validation	August, 2023	-	Identical under dual numbering
19	IS 16811:2018 ISO 14120 : 2015 Reviewed In : 2023 ISO 14120:2015	Safety of machinery - Guards - General requirements for the design and construction of fixed and movable guards	August, 2023	-	Identical under dual numbering
20	IS 16812:2018 ISO 14119 : 2013 Reviewed In : 2023 ISO 14119:2013	Safety of machinery - Interlocking devices associated with guards - Principles for design and selection	August, 2023	-	Identical under dual numbering
21	IS 16813:2019 ISO 14118 : 2017 Reviewed In : 2023 ISO 14118:2017	Safety of machinery - Prevention of unexpected start - Up	August, 2023	-	Identical under dual numbering
22	IS 16814:2021 ISO 13857:2019 ISO 13857:2019	SAFETY OF MACHINERY SAFETY DISTANCES TO PREVENT HAZARD ZONES BEING REACHED BY UPPER AND LOWER LIMBS		-	Identical under dual numbering
23	IS 16815:2019 ISO 13855 : 2010 Reviewed In : 2023 ISO 13855:2010	Safety of machinery - Positioning of safeguards with respect to the approach speeds of parts of the human body	August, 2023	-	Identical under dual numbering
24	IS 16816:2019 ISO 13854 : 2017 Reviewed In : 2023 ISO 13854:2017	Safety of machinery - Minimum gaps to avoid crushing of parts of the human body	August, 2023	-	Identical under dual numbering
25	IS 16817:2020 ISO 13851 : 2019 Reviewed In : 2024 ISO 13851:2019	Safety of Machinery - Two-Hand Control Devices - Principles for Design and Selection (First Revision)	July, 2024	-	Identical under dual numbering
26	IS 16818:2018 ISO 13850 : 2015 Reviewed In : 2023 ISO 13850:2015	Safety of machinery - Emergency stop function - Principles for design	August, 2023	-	Identical under dual numbering
27	IS 16819:2018 ISO 12100 : 2010 Reviewed In : 2023 ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction	August, 2023	-	Identical under dual numbering
28	IS 16834 (Part 1):2018 ISO14123-1 : 2015 Reviewed In : 2023 ISO 14123-1:2015	Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery: Part 1 principles and specifications for machinery manufacturers	August, 2023	-	Identical under dual numbering
29	IS 16834 (Part 2):2018 ISO 14123-2 : 2015 Reviewed In : 2023 ISO 14123-2:2015	Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery: Part 2 methodology leading to verification procedures	August, 2023	-	Identical under dual numbering
30	IS 16835 (Part 1):2018 ISO 13856-1 : 2013 Reviewed In : 2023 ISO 13856-1:2013	Safety of machinery - Pressure - Sensitive protective devices: Part 1 general principles for design and testing of pressure - Sensitive mats and pressure - Sensitive floors	August, 2023	-	Identical under dual numbering

31	IS 16835 (Part 2):2018 ISO 13856-2 : 2013 Reviewed In : 2023 ISO 13856-2:2013	Safety of machinery - Pressure - Sensitive protective devices: Part 2 general principles for design and testing of pressure - Sensitive edges and pressure - Sensitive bars	August, 2023	-	Identical under dual numbering
32	IS 16835 (Part 3):2018 ISO 13856-3 : 2013 Reviewed In : 2023 ISO 13856-3:2013	Safety of machinery - Pressure - Sensitive protective devices: Part 3 general principles for design and testing of pressure - Sensitive bumpers, plates, wires and similar devices	August, 2023	-	Identical under dual numbering
33	IS 16912:2018 ISO 21469 : 2006 Reviewed In : 2023 ISO 21469:2006	Safety of machinery — Lubricants with incidental product contact — Hygiene requirements	August, 2023	-	Identical under dual numbering
34	IS 18966:2024 ISO Guide 78:2012 ISO Guide 78:2012	Safety of machinery - Rules for drafting and presentation of safety standards		-	Identical under dual numbering
35	IS 18982:2024 ISO/TR 24119:2015 ISO/TR 24119:2015	Safety of machinery - Evaluation of fault masking serial connection of interlocking devices associated with guards with potential free contacts		-	Identical under dual numbering
36	IS 18988 (Part 1):2024 ISO/TR 22100-1:2021 ISO/TR 22100-1:2021	Safety of machinery - Relationship with ISO 12100 Part 1 How ISO 12100 relates to type-B and type-C standards		-	Identical under dual numbering
37	IS 18988 (Part 3):2025 ISO/TR 22100-3 : 2016 ISO/TR 22100-3 : 2016	Safety of machinery - Relationship with ISO 12100 Part 3 Implementation of ergonomic principles in safety standards		-	Identical under dual numbering
38	IS 18988 (Part 4):2024 ISO/TR 22100-4:2018 ISO/TR 22100-4:2018	Safety of machinery - Relationship with ISO 12100 Part 4 Guidance to machinery manufacturers for consideration of related IT-security (cyber security) aspects		-	Identical under dual numbering
39	IS 18988 (Part 5):2024 ISO/TR 22100-5:2021 ISO/TR 22100-5:2021	Safety of machinery - Relationship with ISO 12100 Part 5 Implications of artificial intelligence machine learning		-	Identical under dual numbering
40	IS 18989:2024 ISO 20607:2019 ISO 20607:2019	Safety of machinery - Instruction handbook - General drafting principles		-	Identical under dual numbering
41	IS 18990:2024 ISO/TR 22053:2021 ISO/TR 22053:2021	Safety of machinery - Safeguarding supportive system		-	Identical under dual numbering
42	IS/ISO/TS 19837:2018 ISO/TS 19837:2018 ISO/TS 19837:2018	Safety of machinery - Trapped key interlocking devices - Principles for design and selection		-	Identical under single numbering
43	IS/ISO/TR	Safety of machinery Relationship		-	Identical under single

	22100-2:2013 ISO TR 22100-2:2013 ISO TR 22100-2:2013	with ISO 12100 Part 2: How ISO 12100 relates to ISO 13849-1 Adoption of ISOTR 22100-2 : 2013			numbering
44	IS/ISO/TR 22100-3:2013 ISO TR 22100-3 : 2013 ISO TR 22100-3 : 2013	Safety of machinery Relationship with ISO 12100 Part 3: Implementation of ergonomic principles in safety standards Adoption of ISOTR 22100-3 : 2016		-	Identical under single numbering

## Standards under Development

### Projects Approved

SI. No.	Doc No.	Title
<i>No Records Found</i>		

### Preliminary Draft Standards

SI. No.	Doc No.	Title
<i>No Records Found</i>		

### Drafts Standards in WC Stage

SI. No.	Doc No.	Title
<i>No Records Found</i>		

### Draft Standards Completed WC Stage

SI. No.	Doc No.	Title
<i>No Records Found</i>		

### Finalized Draft Indian Standard

SI. No.	Doc No.	Title
1	MED 40 (32938)	Acoustics Determination of Sound Power Levels and Sound Energy Levels of Noise Sources using Sound Pressure Engineering Methods for an Essentially Free Field over a Reflecting Plane
2	MED 40 (32939)	Acoustics Determination of Sound Power Levels and Sound Energy Levels of Noise Sources Using Sound Pressure Precision Methods for Anechoic Rooms and Hemi-Anechoic Rooms

### Finalized Draft Indian Standards under Print

SI. No.	Doc No.	Title
1	MED 40 (32923)	Acoustics - Noise emitted by machinery and equipment-Guidelines for the use of basic standards for the determination of emission sound pressure levels at a work station and at other specified positions
2	MED 40 (32926)	Acoustics Noise Emitted by Machinery and Equipment Determination of Emission Sound Pressure Levels at a Work Station and at other Specified Positions in an Essentially Free Field over a Reflecting Plane with Negligible Environmental Corrections
3	MED 40 (32929)	Acoustics Determination of Sound Power Levels and Sound Energy Levels of Noise Sources using Sound Pressure Precision Methods for Reverberation Test Rooms
4	MED 40 (32930)	Acoustics Noise Emitted by Machinery and Equipment Determination of Emission Sound Pressure Levels at a Work Station and at other Specified Positions Applying Approximate Environmental Corrections
5	MED 40 (32932)	Acoustics Determination of Sound Power Levels and Sound Energy Levels of Noise Sources Using

		Sound Pressure Engineering Methods for Small Movable Sources in Reverberant Fields Part 1 Comparison Method for a Hard-Walled Test Room
6	MED 40 (32933)	Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions from the sound power level
7	MED 40 (32934)	Acoustics Noise Emitted by Machinery and Equipment Determination of Emission Sound Pressure Levels at a Work Station and at other Specified Positions Applying Accurate Environmental Corrections
8	MED 40 (32935)	Acoustics Noise Emitted by Machinery and Equipment Engineering Method for the Determination of Emission Sound Pressure Levels in Situ at the Work Station and at other Specified Positions using Sound Intensity
9	MED 40 (32937)	Acoustics Determination Of Sound Power Levels Of Noise Sources Using Sound Pressure Engineering Methods For Small Movable Sources In Reverberant Fields Part 2 Methods For Special Reverberation Test Rooms
10	MED 40 (32943)	Acoustics Determination of Sound Power Levels and Sound Energy Levels of Noise Sources using Sound Pressure Survey Method Using an Enveloping Measurement Surface over a Reflecting Plane
11	MED 40 (32944)	Acoustics Determination of Sound Power Levels and Sound Energy Levels of Noise Sources using Sound Pressure Engineering Survey Methods for use in Situ in a Reverberant Environment
12	MED 40 (33577)	Safety of Machinery Safety-Related Parts of Control Systems Part 1 General Principles for Design First Revision
13	MED 40 (33578)	Safety of Machinery Positioning of Safeguards with Respect to the Approach of the Human Body First Revision
14	MED 40 (33586)	Safety of Machinery Interlocking Devices Associated with Guards Principles for Design and Selection First Revision

**Total Published Standards:34 Total Standards Under development:16**

### Aspect Wise Report

Product : 0  
 Code of Practices : 0  
 Methods of Test : 0  
 Terminology : 0  
 Dimensions : 0  
 System Standard : 2  
 Safety Standard : 42  
 Others : 0  
 Service Specification : 0  
 Process Specification : 0  
 Unclassified : 0

### Annexure-I :List of Indian Standards Withdrawn/Superseded

SI. No.	IS No. & Year	Title
1	IS 16810:2018 ISO 13849-2 : 2012	Safety of Machinery Safety Related Parts of Control Systems Part 2 Validation

### Annexure-II :List of Indian Product Standards

SI. No.	IS No. & Year	Title
No Records Found		