

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

**ग्राफिक प्रौद्योगिकी — ग्राफिक प्रौद्योगिकी उपकरण और
सिस्टम के लिए सुरक्षा अपेक्षाएँ
भाग 2 प्रीप्रेस और प्रेस उपकरण और सिस्टम**

(ISO 12643-2 का पहला पुनरीक्षण)

Draft Indian Standard

**GRAPHIC TECHNOLOGY — SAFETY REQUIREMENTS FOR GRAPHIC
TECHNOLOGY EQUIPMENT AND SYSTEMS
PART 2 PREPRESS AND PRESS EQUIPMENT AND SYSTEMS**

(First Revision of ISO 12643-2)

ICS 37.100.10

Printing Machinery Sectional
Committee, MED 25

Last date of comment is
07 December 2024

NATIONAL FOREWORD

(Adoption clause to be added later)

The Indian Standard supersedes IS/ISO 12643-2:2010 ‘Graphic Technology — Safety Requirements for Graphic Technology Equipment and Systems Part 2 Prepress and Press Equipment and Systems’.

The main changes are as follows:

- a) In **3.13**, a definition for large-format inkjet digital printing machines has been added;
- b) In **6.2.2**, the exemption for the maximum height of the feed opening has been deleted;
- c) In **6.2.3**, new requirements in relation with in-running nips on anilox rollers (**6.2.3.5**) and cylinders/ rollers in gravure printing presses (**6.2.3.6**) have been added;

- d) In **6.3**, requirements for interlocks have been added;
- e) In **6.3**, requirements for the movement of the inkjet heads when closing a protective device (**6.3.4**) have been added;
- f) In **6.6.1.3**, the requirements for securing whole body access on deliveries have been adapted from the new requirements in ISO 12643-4:2023;
- g) In **6.6**, the requirements for the protection of the pile carrier for heights above 800 mm have been deleted and newly regulated in ISO 12643-1:2023;
- h) In Clause 7, requirements for automatic and semi-automatic printing plate changing have been revised;
- j) In **8.2** and **8.3**, the requirements for fire and explosion protection have been revised;
- k) In **8.3.2**, **8.3.3**, **8.7.2**, **8.7.3**, **15.9** and **B.6.2.2.2**, flash point to Globally Harmonised System (GHS, flammable liquids 60 °C) have been adapted;
- m) Addition of **8.12** and **15.11** with requirements for large-format inkjet digital printing machines (wide-format inkjet digital printing machines);
- n) A new subclause **8.13** on dust protection requirements for web offset printing presses has been added;
- p) A new subclause **8.14** on Emergency stop devices and stop/safe pushbuttons at stationary control stands of web offset printing presses has been added;
- p) The clause on alternative controls for stop/safe function on sheet-fed presses has been deleted;
- q) In **9.4**, a requirement for inkjet printing systems in connection with emergency stop has been added;
- r) The clause on colours for manual controls has been deleted;
- s) The list of significant hazards has been moved to an informative Annex A;
- t) The annex on protection zones against explosion has been moved to ISO 12643-1:2023;
- u) In Annex B, the following have been adapted:
 - 1) Selected measurement locations for the measurement of emissions of ink mist, varnish mist, ammonia, VOC IPA, VOC hydrocarbon compounds;
 - 2) The limit value for ammonia at measurement location 2;
 - 3) The measurement conditions for VOC IPA (6 % IPA in dampening water), VOC hydrocarbon compounds (measurement during entire washing program).

This standard is published in various parts. Other parts in this series are:

- Part 1 General requirements
- Part 3 Binding and finishing equipment and Systems
- Part 4 Converting Equipment and Systems
- Part 5 Manually-fed stand-alone platen presses

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standard. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear, referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standard for which Indian Standard also exist. The corresponding Indian Standard, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 5149-1 : 2014, Refrigerating systems and heat pumps — Safety and environmental requirements — Part 1: Definitions, classification and selection criteria	IS 16678 (Part 1) : 2018 /ISO 5149-1 : 2014, Refrigerating Systems and Heat Pumps — Safety and Environmental Requirements Part 1 Definitions, Classification and Selection Criteria	<i>Identical</i>
ISO 5149-1 : 2014/Amd 1:2015, Refrigerating systems and heat pumps — Safety and environmental requirements — Part 1: Definitions, classification and selection criteria — Amendment 1: Correction of QLAV, QLMV	IS 16678 (Part 1) : 2018/ ISO 5149-1 : 2014, Refrigerating systems and heat pumps — Safety and environmental requirements — Part 1: Definitions, classification and selection criteria	<i>Identical</i>
ISO 5149-1 : 2014/Amd 2:2021, Refrigerating systems and heat pumps — Safety and environmental requirements — Part 1: Definitions, classification and selection criteria — Amendment 2: Update of Annex A and the refrigerant tables	IS 16678 (Part 1) : 2018/ ISO 5149-1 : 2014, Refrigerating systems and heat pumps — Safety and environmental requirements — Part 1: Definitions, classification and selection criteria	<i>Identical</i>
ISO 12100 : 2010, Safety of machinery — General principles for design — Risk assessment and risk reduction	IS 16819 : 2018/ ISO 12100 : 2010 Safety of Machinery — General Principles for Design — Risk Assessment and Risk Reduction	<i>Identical</i>
ISO 13855 : 2010, Safety of machinery — Positioning of safeguards with respect to the approach speeds of parts of the human body	IS 16815 : 2019/ ISO 13855 : 2010 Safety of Machinery — Positioning of Safeguards with Respect to the Approach Speeds of Parts of the Human Body	<i>Identical</i>

ISO 13857 : 2019, Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs	IS 16814 : 2021/ ISO 13857 : 2019 Safety of Machinery — Safety Distances to Prevent Hazard Zones Being Reached by Upper and Lower Limbs (<i>first revision</i>)	<i>Identical</i>
ISO 19353 : 2019, Safety of machinery — Fire prevention and fire protection	IS 16807 : 2020/ ISO 19353 : 2019 Safety of Machinery — Fire Prevention and Fire Protection (<i>first revision</i>)	<i>Identical</i>
IEC 60529 : 1989+AMD1 : 1999, Degrees of protection provided by enclosures (IP Code)	IS/IEC 60529 : 2001+ Amendment No.1 January 2024, Degrees of Protection Provided by Enclosures (IP Code)	<i>Identical</i>
IEC 62368-1 : 2018, Audio/video, information and communication technology equipment — Part 1: Safety requirements	IS/IEC 62368-1 : 2018, Audio/Video, Information and Communication Technology Equipment Part 1 Safety Requirements (<i>first revision</i>)	<i>Identical</i>

The technical committee has reviewed the provisions of the following International Standard referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard:

<i>International Standard</i>	<i>Title</i>
ISO 13732-1 : 2006	Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces
IEC 60079-10-1 : 2020	Explosive atmospheres — Part 10-1: Classification of areas — Explosive gas atmospheres
IEC/TS 60079-32-1:2013+AMD1 : 2017	Explosive atmospheres — Part 32-1: Electrostatic hazards guidance
IEC 60825-1 : 2014	Safety of laser products — Part 1: Equipment classification and requirements
EN 1127-1 : 2019	Explosive atmospheres — Explosion prevention and protection - Part 1: Basic concepts and methodology
IEC 62061 : 2021	Safety of machinery — Functional safety of safety-related electrical, electronic and programmable electronic control systems
ISO 12643-1 : 2023	Graphic technology — Safety requirements for graphic technology equipment and systems — Part 1: General requirements
ISO 13849-1 : 2023	Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded-off value should be the same as that of the specified value in this standard.

NOTE — The technical content of the document has not been enclosed as these are identical with the corresponding ISO standard. For details, please refer the corresponding **ISO 12643-2: 2023** or kindly contact:

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