

Indian Standard

GRAPHIC TECHNOLOGY — SAFETY REQUIREMENTS FOR GRAPHIC TECHNOLOGY EQUIPMENT AND SYSTEMS

PART 1 GENERAL REQUIREMENTS

1 Scope

This part of ISO 12643 provides safety specifications for the design and construction of new equipment used in prepress systems, printing press systems, binding and finishing systems, converting systems and stand-alone platen presses. It is applicable to equipment used in stand-alone mode, or in combination with other machines, including ancillary equipment, in which all the machine actuators (e.g. drives) of the equipment are controlled by the same control system.

The requirements given in this part of ISO 12643 are applicable to the equipment covered by all parts of ISO 12643, unless otherwise noted. This part of ISO 12643 is intended to be used in conjunction with the applicable part of ISO 12643 that contains additional requirements specific to a particular type of equipment.

This part of ISO 12643 addresses recognized significant hazards specific to equipment and systems in the following areas:

- . mechanical;
- . electrical;
- . slipping, tripping, falling;
- . ergonomics;
- . noise;
- . UV and laser radiation;
- . fire and explosion;
- . thermal;
- . other types of emissions [e.g. ozone, ink mist, volatile organic compounds (VOCs), etc.].

The safety principles established in this part of ISO 12643 can also be applicable to the design of equipment within areas of technology that are not specified in ISO 12643.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3864-1, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs in workplaces and public areas*

ISO 3864-2, *Graphical symbols — Safety colours and safety signs — Part 2: Design principles for product safety labels*

ISO 3864-3, *Graphical symbols — Safety colours and safety signs — Part 3: Design principles for graphical symbols for use in safety signs*

ISO 7010, *Graphical symbols — Safety colours and safety signs — Safety signs used in workplaces and public areas*

ISO 8031, *Rubber and plastics hoses and hose assemblies — Determination of electrical resistance and conductivity*

ISO 11553-1, *Safety of machinery — Laser processing machines — Part 1: General safety requirements*

ISO/TR 11688-1, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning*

ISO 11689, *Acoustics — Procedure for the comparison of noise-emission data for machinery and equipment*

ISO 12100-1, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology*

ISO 12100-2, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles*

ISO 12643-2, *Graphic technology — Safety requirements for graphic technology equipment and systems — Part 2: Prepress and press equipment and systems*

ISO 12643-3, *Graphic technology — Safety requirements for graphic technology equipment and systems — Part 3: Binding and finishing equipment and systems*

ISO 12643-4, *Graphic technology — Safety requirements for graphic technology equipment and systems — Part 4: Converting equipment and systems*

ISO 12643-5, *Graphic technology — Safety requirements for graphic technology equipment and systems — Part 5: Stand-alone platen presses*

ISO 13732-1, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces*

ISO 13849-1, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

ISO 13850, *Safety of machinery — Emergency stop — Principles for design*

ISO 13851, *Safety of machinery — Two-hand control devices — Functional aspects and design principles*

ISO 13854, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

ISO 13855, *Safety of machinery — Positioning of protective equipment with respect to the approach speeds of parts of the human body*

ISO 13856-1, *Safety of machinery — Pressure-sensitive protective devices — Part 1: General principles for design and testing of pressure-sensitive mats and pressure-sensitive floors*

ISO 13857, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*

ISO 14119:1998, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*

ISO 14120, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*

ISO 14121-1, *Safety of machinery — Risk assessment — Part 1: Principles*

ISO 14122-1, *Safety of machinery — Permanent means of access to machinery — Part 1: Choice of fixed means of access between two levels*

ISO 14122-2, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and walkways*

ISO 14122-3, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails*

ISO/TR 15847, *Graphic technology — Graphical symbols for printing press systems and finishing systems, including related auxiliary equipment*

IEC 60079-1, *Explosive atmospheres — Part 1: Equipment protection by flameproof enclosures “d”*

IEC 60079-2, *Explosive atmospheres — Part 2: Equipment protection by pressurized enclosures “p”*

IEC 60079-5, *Explosive atmospheres — Part 5: Equipment protection by powder filling “q”*

IEC 60079-6, *Explosive atmospheres — Part 6: Equipment protection by oil immersion “o”*

IEC 60079-7, *Explosive atmospheres — Part 7: Equipment protection by increased safety “e”*

IEC 60079-11, *Explosive atmospheres — Part 11: Equipment protection by intrinsic safety “i”*

IEC 60079-14, *Explosive atmospheres — Part 14: Electrical installations design, selection and erection*

IEC 60079-18, *Explosive atmospheres — Part 18: Equipment protection by encapsulation “m”*

IEC 60204-1, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements*

IEC 60825-1, *Safety of laser products — Part 1: Equipment classification and requirements*

IEC 60947-2, *Low-voltage switchgear and controlgear — Part 2: Circuit-breakers*

IEC 60947-3, *Low-voltage switchgear and controlgear — Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units*

IEC 60947-5-1, *Low-voltage switchgear and controlgear — Part 5-1: Control circuit devices and switching elements — Electromechanical control circuit devices*

(PREVIEW)

IS/ISO 12643-1 : 2009

IEC 61010-1, Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements

IEC 61310-1, Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, acoustic and tactile signals

IEC 61310-2, Safety of machinery — Indication, marking and actuation — Part 2: Requirements for marking

IEC 61310-3, Safety of machinery — Indication, marking and actuation — Part 3: Requirements for the location and operation of actuators

IEC 61496-1, Safety of machinery — Electro-sensitive protective equipment — Part 1: General requirements and tests

IEC 61496-2, Safety of machinery — Electro-sensitive protective equipment — Part 2: Particular requirements for equipment using active opto-electronic protective devices (AOPDs)

IEC 62061, Safety of machinery — Functional safety of safety-related electrical, electronic and programmable electronic control systems

EN 1127-1, Explosive atmosphere — Explosion prevention and protection — Part 1: Basic concepts and methodology

EN 1760-2, Safety of machinery — Pressure sensitive protective devices — Part 2: General principles for the design and testing of pressure sensitive edges and pressure sensitive bars

EN 12198-1:2000, Safety of machinery — Assessment and reduction of risks arising from radiation emitted by machinery — Part 1: General principles

EN 13023, Noise measurement methods for printing, paper converting, paper making machines and auxiliary equipment — Accuracy grades 2 and 3