

Appendix A

Requirements and Standards - Regional Requirements

1. RISK ASSESSMENTS

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	ISO 12100:2010 <i>"Safety of machinery – General principles for design – Risk assessment and risk reduction"</i>
China	GB/T 15706-2012
Turkey	ISO 12100:2010 Occupational health and safety risk assessment regulation , available at http://www.mevzuat.gov.tr
United States	ISO 12100:2010 & take into account the requirements of ANSI B11.0 – 2015 <i>Safety of Machinery</i>

2. HAZARDS

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
ALL	ISO 12100:2010 <i>"Safety of machinery – General principles for design – Risk assessment and risk reduction"</i> – Annex B

2.1 Protection Against Fire and Explosion

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	ISO 19353:2015 <i>"Safety of machinery – Fire prevention and fire protection"</i> NFPA 67 <i>Guide on Explosion Protection for Gaseous Mixtures in Pipe Systems</i> NFPA 69 <i>Standard on Explosion Prevention Systems</i> NFPA 70 <i>National Electric Code</i> EU ATEX Directive 94/9/EC (if production equipment is utilized in a potentially explosive atmosphere or produces particles /vapours that can lead to an potential explosive atmosphere)
Europe	ISO 19353:2015 NFPA 67 NFPA 69 NFPA 70 EU ATEX Directive 94/9/EC EU Machinery Safety Directive 2006/42/EC

Turkey	<p>ISO 19353:2015 NFPA 67 NFPA 69 NFPA 70 EU ATEX Directive 94/9/EC Regulation on emergency responsibilities at workplace Regulation on the protection of workers from dangerous explosive environments Regulation on fire protection Regulation on Preventing and reducing effectiveness of large industrial accidents (all available at http://www.mevzuat.gov.tr)</p>
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2.2 Ergonomics/Lighting

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	<p>ISO/TR 22100-3:2016 “<i>Safety of machinery -- Relationship with ISO 12100 -- Part 3: Implementation of ergonomic principles in safety standards</i>”;</p> <p>ISO 15534-1:2000 “<i>Ergonomic design for the safety of machinery – Part 1: Principles for determining the dimensions required for openings for whole-body access into machinery</i>”;</p> <p>ISO 15534-2:2000 “<i>Ergonomic design for the safety of machinery -- Part 2: Principles for determining the dimensions required for access openings</i>”; and</p> <p>ISO 15534-3:2000 “<i>Ergonomic design for the safety of machinery -- Part 3: Anthropometric data</i>”</p> <p>EN 1837:1999+A1:2009 “<i>Safety of machinery. Integral lighting of machines</i>”</p>
China	<p>ISO/TR 22100-3:2016</p> <p>GB18717-1</p> <p>GB18717-2</p> <p>GB18717-3</p> <p>EN 1837:1999+A1:2009</p>
Mexico	<p>ISO/TR 22100-3:2016</p> <p>ISO 15534-1:2000</p> <p>ISO 15534-2:2000</p> <p>ISO 15534-3:2000</p> <p>EN 1837:1999+A1:2009</p>

	PROY- NOM-036-1-STPS-2017 Ergonomics risks at work (identification, analysis, prevention and control)
United States	<p>ISO/TR 22100-3:2016</p> <p>ISO 15534-2:2000</p> <p>ISO 15534-3:2000</p> <p>EN 1837:1999+A1:2009</p> <p>ANSI B11.TR1-2016 <i>Ergonomic guidelines for the design, installation and use of machine tools</i></p>

2.3 Noise Levels/Vibration

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	<p>European Directive 2003/10/EC (<75dB(A) at a height of 1.60 m from the floor and at 1 m peripheral distance from the operator workstation and any other source of noise)</p> <p>EN 1299:1997 <i>Mechanical vibration and shock - Vibration isolation of machines - Information for the application of source isolation</i></p>
Brazil	<p>NR-15 (Unhealthy activities and operations) Annexes 1 – Noise limits for continuous and intermittent noise / 2 – Noise limits for impact noise (<85dB)</p> <p>EN 1299:1997</p>
Canada (Ontario)	<p>Occupational Health and Safety Act, R.S.O. 1990, c. O.1 - ONTARIO REGULATION 381/15 (<85 dB)</p> <p>EN 1299:1997</p>
Mexico	<p>NOM-011-STPS-2001 Safety conditions at workplaces where noise is generated.</p> <p>NOM-081-SEMARNAT-1994 Maximum threshold allowed for noise emission on equipment and measurement method</p> <p>EN 1299:1997</p>
South Africa	<p>Regulation 307, OHS, Noise induced hearing loss regulations (<85dB)</p> <p>Occupational Health and Safety Act , 1993</p> <p>EN 1299:1997</p>

Turkey	Regulation on the protection to employees from the noise risks EN 1299:1997
United States	OSHA 1910.95 Occupational Noise Exposure EN 1299:1997

2.4 Noise Measurement

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	ISO 230-5 <i>“Test code for machine tools – Part 5: Determination of the noise emission”</i>
China	GB/T 17421.5-2015
Argentina	Resolution 85/12 SRT Protocol for noise evaluation (machines and work environment)
Brazil	FUNDACENTRO, NH01 Technical procedure for evaluation of noise exposure

2.5 Radiation

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	<p>ISO 11553-1:2005 <i>Safety of machinery -- Laser processing machines -- Part 1: General safety requirements</i></p> <p>ISO 11553-2:2007 <i>Safety of machinery -- Laser processing machines -- Part 2: Safety requirements for hand-held laser processing devices</i></p> <p>DIN EN 12198-1:2008-11 <i>Safety of machinery - Assessment and reduction of risks arising from radiation emitted by machinery - Part 1: General principles</i></p> <p>DIN EN 12198-2:2008-11 <i>Safety of machinery - Assessment and reduction of risks arising from radiation emitted by machinery - Part 2: Radiation emission measurement procedure;</i></p> <p>DIN EN 12198-3:2008-11 <i>Safety of machinery - Assessment and reduction of risks arising from radiation emitted by machinery - Part 3: Reduction of radiation by attenuation or screening</i></p>

2.6 Extreme Temperatures

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	<p>ISO 13732-1:2006 <i>Ergonomics of the thermal environment -- Methods for the assessment of human responses to contact with surfaces -- Part 1: Hot surfaces</i></p> <p>ISO 13732-3:2005 <i>Ergonomics of the thermal environment -- Methods for the assessment of human responses to contact with surfaces -- Part 3: Cold surfaces</i></p>

2.7 Hazardous Substances

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	<p>ISO 14123-1:2015 <i>Safety of machinery -- Reduction of risks to health resulting from hazardous substances emitted by machinery -- Part 1: Principles and specifications for machinery manufacturers</i></p> <p>ISO 14123-2:2015 <i>Safety of machinery -- Reduction of risks to health resulting from hazardous substances emitted by machinery -- Part 2: Methodology leading to verification procedures</i></p> <p>EN 1093-1:2008. <i>Safety of machinery. Evaluation of the emission of airborne hazardous substances. Selection of test methods</i></p> <p>EN 1093-2:2006+A1:2008. <i>Safety of machinery. Evaluation of the emission of airborne hazardous substances. Tracer gas method for the measurement of the emission rate of a given pollutant</i></p> <p>EN 1093-3:2006+A1:2008. <i>Safety of machinery. Evaluation of the emission of airborne hazardous substances. Test bench method for the measurement of the emission rate of a given pollutant</i></p> <p>EN 1093-4:1996+A1:2008. <i>Safety of machinery. Evaluation of the emission of airborne hazardous substances. Capture efficiency of an exhaust system. Tracer method</i></p> <p>EN 1093-6:1998+A1:2008. <i>Safety of machinery. Evaluation of the emission of airborne hazardous substances. Separation efficiency by mass, unducted outlet</i></p> <p>EN 1093-7:1998+A1:2008. <i>Safety of machinery. Evaluation of the emission of airborne hazardous substances. Separation efficiency by mass, ducted outlet</i></p>

	<p>EN 1093-8:1998+A1:2008. <i>Safety of machinery. Evaluation of the emission of airborne hazardous substances. Pollutant concentration parameter, test bench method</i></p> <p>EN 1093-9:1998+A1:2008. <i>Safety of machinery. Evaluation of the emission of airborne hazardous substances. Pollutant concentration parameter, room method</i></p> <p>EN 1093-11:2001+A1:2008. <i>Safety of machinery. Evaluation of the emission of airborne hazardous substances. Decontamination index</i></p>
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2.7.1 Chemical Agents

All Not Listed	<p>Directive 98/24/EC - <i>risks related to chemical agents at work</i></p> <p>Regulation (EC) No 1907/2006. <i>Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)</i>,</p> <p>Regulation (EC) No 1272/2008. <i>classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006</i></p>
Canada – Ontario	<p>Occupational Health and Safety Act, R.S.O. 1990, c. O.1 – O. Reg. 490/09: <i>Designated Substances</i></p> <p>Occupational Health and Safety Act, R.S.O. 1990, c. O.1 - R.R.O. 1990, Reg. 833: <i>Control of Exposure to Biological or Chemical Agents</i></p> <p>Occupational Health and Safety Act, R.S.O. 1990, c. O.1 – R.R.O. 1990, Reg. 860: <i>Workplace Hazardous Materials Information System (WHMIS)</i></p>
South Africa	R;1179 Hazardous Chemical Substances Regulations, 1995
United States	OSHA 29 CFR 1910 (subparts H, I and Z)

2.8 Signs/Warnings

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	<p>ISO 7731:2003 <i>Ergonomics -- Danger signals for public and work areas -- Auditory danger signals</i></p> <p>ISO 11428:1996 <i>Ergonomics -- Visual danger signals -- General requirements, design and testing</i></p> <p>ISO 3864-1:2011 <i>Graphical symbols -- Safety colours and safety signs -- Part 1: Design principles for safety signs and safety markings</i></p> <p>ISO 3864-2:2016 <i>Graphical symbols -- Safety colours and safety signs -- Part 2: Design principles for product safety labels</i></p> <p>ISO 3864-3:2012 <i>Graphical symbols -- Safety colours and safety signs -- Part 3: Design principles for graphical symbols for use in safety signs</i></p> <p>ISO 3864-4:2011 <i>Graphical symbols -- Safety colours and safety signs -- Part 4: Colorimetric and photometric properties of safety sign materials</i></p>
Brazil	<p>NR-26 Safety Signs and colours</p> <p>NBR ISO 3864:2013 <i>Graphical symbols -- Safety colours and safety signs -- Part 1: Design principles for safety signs and safety markings</i></p> <p>ISO 3864-2:2016</p> <p>ISO 3864-3:2012</p> <p>ISO 3864-4:2011</p>
Canada	<p>ISO 7731:2003</p> <p>ISO 11428:1996</p> <p>ANSI Z535.1-2017 <i>Safety Colors</i></p> <p>ANSI Z535.2-2011 (R2017) <i>Environmental and Facility Safety Signs</i></p> <p>ANSI Z535.3-2011 (R2017) <i>Criteria for Safety Symbols</i></p> <p>ANSI Z535.4-2011 (R2017) <i>Product Safety Signs and Labels</i></p>

United States	<p>ISO 7731:2003</p> <p>ISO 11428:1996</p> <p>ANSI Z535.1-2017</p> <p>ANSI Z535.2-2011 (R2017)</p> <p>ANSI Z535.3-2011 (R2017)</p> <p>ANSI Z535.4-2011 (R2017)</p>
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2.9 Environmental and Sustainability

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
Brazil	National Policy for Environment, Law 6.938, 1981
Canada - Ontario	Environmental Protection Act, R.S.O. 1990, c. E.19
Mexico	General Law of Ecological Balance and Environmental Protection
South Africa	National Environmental Management Act No 107, 1998
United States	<p>United States Code Title 42, Chapter 85 – Environmental Protection Agency Clean Air Act</p> <p>33 U.S.C. 1251 et seq. Federal Water Pollution Control Act (Clean Water Act)</p> <p>United States Code Title 42, Chapter 82 – Solid Waste Disposal (Resource Conservation and Recovery Act)</p> <p>40 CFR Part 262 – Standards Applicable to Generators of Hazardous Waste</p>

3. DESIGN

3.1 General Machinery Safety Standards

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	<p>ISO/TR 22100-1:2015 "Safety of machinery -- Relationship with ISO 12100 -- Part 1: How ISO 12100 relates to type-B and type-C standards"</p> <p>ISO 11161:2007 "Safety of machinery- Integrated manufacturing systems -- Basic requirements"</p> <p>CSA Z432 "Safeguarding of Machinery"</p>
Brazil	<p>ISO/TR 22100-1:2015</p> <p>ISO 11161:2007</p> <p>NR-12</p>
China	<p>GB/T 15706-2012</p> <p>ISO 11161:2007</p> <p>CSA Z432</p>
Mexico	<p>ISO/TR 22100-1:2015</p> <p>ISO 11161:2007</p> <p>NOM-004-STPS-1999 Safety protection systems for industrial machines and equipment</p>
South Africa	<p>ISO/TR 22100-1:2015</p> <p>ISO 11161:2007</p> <p>General Machinery Regulations – Section 35 of the Machinery and Occupational Safety Act, 1983</p>
Turkey	<p>ISO/TR 22100-1:2015</p> <p>ISO 11161:2007</p> <p>Regulation on health and safety conditions using business equipment Machine Safety regulation</p>
United States	<p>ISO/TR 22100-1:2015</p> <p>ANSI B11.20-2017</p> <p>ANSI B11.19-2010 "Performance Requirements for Safeguarding"</p>

3.2 Safeguarding Set-ups

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	ISO 13854:2017 <i>“Safety of machinery -- Minimum gaps to avoid crushing of parts of the human body”</i> ISO 13855:2010 <i>“Safety of machinery -- Positioning of safeguards with respect to the approach speeds of parts of the human body”</i> ISO 13857:2008 <i>“Safety of machinery -- Safety distances to prevent hazard zones being reached by upper and lower limbs”</i>
Canada	ISO 13854:2017 ISO 13855:2010 CSA Z432 <i>“Safeguarding of Machinery”</i>
China	ISO 13854:2017 GB/T 19876-2005 B 23821-2009
Brazil	NBR NM ISO 13852: 2003 Safety of machinery – Safety distances to prevent danger zones being reached by the upper limbs NBR NM ISO 13853: 2003 Safety of machinery – Safety distances to prevent danger zones being reached by the lower limbs NBR 13857:2008

3.2.1 Guard Selection

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
ALL	ISO 12100 – Parts 1 & 2 ISO 14122-1:2016 <i>“Safety of machinery -- Permanent means of access to machinery -- Part 1: Choice of fixed means and general requirements of access”</i>

3.2.2 Barrier Guards

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	<p>ISO 14120:2015 “<i>Safety of machinery -- Guards -- General requirements for the design and construction of fixed and movable guards</i>”</p> <p>ISO 14119:2013 “<i>Safety of machinery -- Interlocking devices associated with guards -- Principles for design and selection</i>”</p>
Brazil	<p>ANBT NBR NM 272:2002 “<i>Safety of machinery – Guards – General requirements for the design and construction of fixed and movable guards</i>”.</p> <p>ABNT NM 273:2002 “<i>Machine safety, interlocking device associated with guards – Principles for design and selection</i>”</p>
China	<p>GB/T 8196-2003</p> <p>GB/T 18831-2010</p>
Europe	<p>EN 953:1997</p> <p>EN 1088:1995 + A2:2008</p>

3.2.3 Pressure-Sensitive Protective Devices

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
ALL	<p>ISO 13856-1:2013 “<i>Safety of machinery -- Pressure-sensitive protective devices -- Part 1: General principles for design and testing of pressure-sensitive mats and pressure-sensitive floors</i>”</p> <p>ISO 13856-2:2013 “<i>Safety of machinery — Pressure-sensitive protective devices — Part 2: General principles for design and testing of pressure-sensitive edges and pressure-sensitive bars</i>”</p> <p>ISO 13856-3:2013 “<i>Safety of machinery -- Pressure-sensitive protective devices -- Part 3: General principles for design and testing of pressure-sensitive bumpers, plates, wires and similar devices</i>”</p>

3.2.4 Electro-Sensitive Protective Equipment

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
ALL	<p>IEC 61496-1:2012 “Safety of machinery - Electro-sensitive protective equipment - Part 1: General requirements and tests”</p> <p>IEC 61496-2:2013 “Safety of machinery - Electro-sensitive protective equipment - Part 2: Particular requirements for equipment using active opto-electronic protective devices (AOPDs)”</p> <p>IEC 61496-3:2008 “Safety of machinery - Electro-sensitive protective equipment - Part 3: Particular requirements for Active Opto-electronic Protective Devices responsive to Diffuse Reflection (AOPDDR)”</p> <p>IEC TS 61496-4-2:2014 “Safety of machinery - Electro-sensitive protective equipment - Part 4-2: Particular requirements for equipment using vision based protective devices (VBPD) - Additional requirements when using reference pattern techniques (VBPDP)”</p> <p>IEC TS 61496-4-3:2015 “Safety of machinery - Electro-sensitive protective equipment - Part 4-3: Particular requirements for equipment using vision based protective devices (VBPD) - Additional requirements when using stereo vision techniques (VBPDDST)”</p>

3.2.5 Two-Hand Control Devices

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
ALL	ISO 13851:2002 “Safety of machinery -- Two-hand control devices -- Functional aspects and design principle”

3.2.6 Control Systems

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	<p>ISO 13849-1:2015 “Safety of machinery -- Safety-related parts of control systems-- Part 1: general principles for design”</p> <p>ISO/TR 22100-2:2013 “Safety of machinery -- Relationship with ISO 12100 -- Part 2: How ISO 12100 relates to ISO 13849-1”</p>
United States	<p>ANSI B11.TR6-2010 – “Safety Control Systems for Machine Tools”</p> <p>ISO/TR 22100-2:2013</p>

3.2.7 Validating Control Systems

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	ISO 13849-2:2012 <i>“Safety of machinery -- Safety-related parts of control systems -- Part 2: Validation”</i>
China	GB/T 16855.2-2007

3.2.8 Emergency Stop Switches

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	ISO 13850:2015 <i>“Safety of machinery -- Emergency stop function -- Principles for design”</i>
China	GB 16754-2008

3.3 Control of Hazardous Energy – Lockout Tagout

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	ISO 14118:2017 <i>“Safety of machinery -- Prevention of unexpected start-up”</i>
Canada	CSA Z460-13
United States	ANSI/ASSE Z244.1-2016

4. ENGINEERING

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All not listed	<p>EU Machinery Safety Directive 2006/42/EC and any related harmonized standards</p> <p>ICE 60204-1 ED. 5.0 <i>“Safety of machinery - Electrical equipment of machines Part 1: General requirements”</i></p> <p>ISO 4413:2010 <i>“Hydraulic fluid power — General rules and safety requirements for systems and their components”</i></p> <p>ISO 4414:2010 <i>“Pneumatic fluid power — General rules and safety requirements for systems and their components”</i></p>

Argentina	<p>EU Machinery Safety Directive 2006/42/EC and any related harmonized standards</p> <p>Argentine Electrotechnique Manual</p> <p>ISO 4413:2010</p> <p>ISO 4414:2010</p>
Brazil	<p>EU Machinery Safety Directive 2006/42/EC and any related harmonized standards</p> <p>NR-10 <i>Safety in electrical installations and services</i></p> <p>ISO 4413:2010</p> <p>ISO 4414:2010</p>
Canada	CSA Z460-13
South Africa	<p>EU Machinery Safety Directive 2006/42/EC and any related harmonized standards</p> <p>Occupational HS Act, 1993 – Electrical machinery regulation 2011</p> <p>ISO 4413:2010</p> <p>ISO 4414:2010</p>

4.1 Other Requirements

REGION/COUNTRY	REQUIRED STANDARDS TO BE FOLLOWED
All Not Listed	<p>ISO 14122-2:2016 “<i>Safety of machinery -- Permanent means of access to machinery -- Part 2: Working platforms and walkways</i>”</p> <p>ISO 14122-3:2016 “<i>Safety of machinery -- Permanent means of access to machinery -- Part 3: Stairs, stepladders and guard-rails</i>”</p> <p>ISO 14122-4:2016 “<i>Safety of machinery -- Permanent means of access to machinery -- Part 4: Fixed ladders</i>”</p> <p>ISO 14123-1:2015 “<i>Safety of machinery -- Reduction of risks to health resulting from hazardous substances emitted by machinery -- Part 1: Principles and specifications for machinery manufacturers</i>”</p>

	<p>ISO 14123-2:2015 <i>“Safety of machinery -- Reduction of risks to health resulting from hazardous substances emitted by machinery -- Part 2: Methodology leading to verification procedures”</i></p> <p>ISO 10218-1:2011 & ISO 10218-2:2011 <i>“ Robots and robotic devices -- Safety requirements for industrial robots – Parts 1 & 2”</i></p> <p>CSA Z142 <i>“Power Press”</i></p> <p>ANSI B11.2-2013 <i>“Safety Requirements for Hydraulic and Pneumatic Presses”</i></p> <p>ANSI B11.4 <i>“Safety Requirements for Shears”</i></p> <p>ANSI/PMMI B155.1-2016 <i>“Safety Requirements for Packaging Machinery and Packaging-Related Converting Machinery”</i></p> <p>M422-14 <i>“Fire-performance and antistatic requirements for conveyor belting”</i></p> <p>CSA Z91-17 <i>“Health and safety code for suspended equipment operations”</i></p> <p>Directive 2006/95/EC Low voltage</p> <p>Directive 2004/22/EEC Measuring instruments directive</p> <p>Directive 2004/108/EC Electromagnetic compatibility</p> <p>Directive 90/39c/EEC GAD-GAS Appliances</p> <p>Directive 87/404/EEC Simple pressure vessels</p> <p>Directive 97/23/EC Pressure Equipment</p> <p>Directive 92/42/EEC Hot-water boilers</p>
Argentina	<p>ISO 14122-2:2016</p> <p>ISO 14122-3:2016</p> <p>ISO 14122-4:2016</p> <p>ISO 14123-1:2015</p> <p>ISO 14123-2:2015</p> <p>ISO 10218-1:2011 & ISO 10218-2:2011</p> <p>CSA Z142</p>

	<p>ANSI B11.2-2013</p> <p>ANSI B11.4</p> <p>ANSI/PMMI B155.1-2016</p> <p>M422-14</p> <p>CSA Z91-17</p> <p>Law 19.587, decree 351/79 Hygiene and safety at work</p> <p>Resolution 84/15 Illumination</p> <p>Resolution 3068/14 Low voltage (Asociación Eletrotécnica Argentina)</p>
Brazil	<p>ISO 14122-2:2016 <i>“Safety of machinery -- Permanent means of access to machinery -- Part 2: Working platforms and walkways”</i></p> <p>ISO 14122-3:2016</p> <p>ISO 14122-4:2016</p> <p>ISO 14123-1:2015</p> <p>ISO 14123-2:2015</p> <p>ISO 10218-1:2011 & ISO 10218-2:2011</p> <p>ANSI B11.2-2013</p> <p>ANSI B11.4</p> <p>ANSI/PMMI B155.1-2016</p> <p>M422-14</p> <p>CSA Z91-17</p> <p>NBR 13970:1997 <i>Machine Safety, temperature of accessible surfaces, ergonomic data to establish temperature thresholds for hot surfaces</i></p> <p>NBR 5410 <i>Low voltage</i></p> <p>NBR IEC 60439-1: 2004 <i>Low-voltage switchgear and control gear assemblies,</i></p>

	<p><i>Part 1: Type tested and type partially tested assemblies</i></p> <p>NBR IEC 60439-3:2004 <i>Low-voltage switchgear and control gear assemblies, Part 3: Particular requirements for low-voltage switchgear and control gears assemblies intended to be installed in places where unskilled person have access for their use</i></p> <p>NBR IEC 60529:2017 <i>Degrees of protection provided by enclosures (IP Code)</i></p> <p>NR-13 <i>Boilers, pressure vessels and piping</i></p> <p>NR-14 <i>Furnaces</i></p>
Canada	<p>ISO 14122-2:2016</p> <p>ISO 14122-3:2016</p> <p>ISO 14122-4:2016</p> <p>ISO 14123-1:2015</p> <p>ISO 14123-2:2015</p> <p>CSA Z434-14</p> <p>CSA Z142</p> <p>ANSI B11.2-2013</p> <p>ANSI B11.4</p> <p>ANSI/PMMI B155.1-2016</p> <p>M422-14</p> <p>CSA Z91-17</p> <p>Directive 2006/95/EC Low voltage</p> <p>Directive 2004/22/EEC Measuring instruments directive</p> <p>Directive 2004/108/EC Electromagnetic compatibility</p>

	<p>Directive 90/39c/EEC GAD-GAS Appliances</p> <p>CSA B51-14 <i>“Boiler, pressure vessel, and pressure piping code”</i></p>
Mexico	<p>ISO 14122-2:2016</p> <p>ISO 14122-3:2016</p> <p>ISO 14122-4:2016</p> <p>ISO 14123-1:2015</p> <p>ISO 14123-2:2015</p> <p>ISO 10218-1:2011 & ISO 10218-2:2011</p> <p>CSA Z142</p> <p>ANSI B11.2-2013</p> <p>ANSI B11.4</p> <p>ANSI/PMMI B155.1-2016</p> <p>CSA Z91-17</p> <p>Directive 2006/95/EC</p> <p>Directive 2004/22/EEC</p> <p>Directive 2004/108/EC</p> <p>Directive 90/39c/EEC GAD-GAS</p> <p>Directive 97/23/EC</p>
United States	<p>ISO 14122-2:2016</p> <p>ISO 14122-3:2016</p> <p>ISO 14122-4:2016</p> <p>ISO 14123-1:2015</p> <p>ISO 14123-2:2015</p>

	<p>ANSI/RIA R15.06-2012</p> <p>ANSI B11.1-2009</p> <p>ANSI B11.2-2013</p> <p>ANSI B11.4</p> <p>ANSI/PMMI B155.1-2016</p> <p>M422-14</p> <p>CSA Z91-17</p> <p>Directive 2006/95/EC Low voltage</p> <p>Directive 2004/22/EEC Measuring instruments directive</p> <p>Directive 2004/108/EC Electromagnetic compatibility</p> <p>Directive 90/39c/EEC GAD-GAS Appliances</p> <p>ASME Boiler and Pressure Vessel Codes</p>
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Revisions history

Revision	Date	Writer	Description
00	01.11.2019	Group Q&EHS	Initial release