

Standard Information

Standard Number: ANSI/ISA 12.12.01

Standard Name: Nonincendive Electrical Equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

Standard Edition and Issue Date: Approved 3rd June 2013

Date of Previous Revisions to Standard: 2011 (Sun issued with ED=April 30, 2013). Update 2012 included additional alternate compliance measures in 6.1 with no impact to product certifications.

Effective Date of New/Revised Requirements

Effective Date (see Schedule below): July 31, 2015

Impact, Overview, Fees and Action Required

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revised requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

Overview of Technical Changes:

1. ANSI/ISA 12.12.01-2013 Added clause 8.8 to include requirement of "tool securement" to external plugs and sockets for field wiring connection in incendive circuits.

8.8 External plugs and sockets for field wiring connections in incendive circuits either.

- between one piece of electrical equipment and another piece of electrical equipment (by means of a cable or cord assembly involving plugs & sockets on both ends or a plug & socket on one end and un-terminated cable or cord on the other), or
- between premises wiring and a piece of electrical equipment (by means of a cable or cord assembly involving a socket on the equipment end and un-terminated cable or cord on the premises wiring end).

shall be protected against unintentional separation as follows:

- a) a means shall be provided to mechanically secure the plug or socket that is part of the equipment, to the mating plug or socket that is part of the intended cable assembly, as follows:
 - 1) separation shall be possible only with the aid of a tool;
 - 2) when not secured, the means shall be captive to the equipment or the cable assembly; and
 - 3) Warning marking that reads, "WARNING – DO NOT CONNECT OR DISCONNECT WHEN ENERGIZED", or equivalent, shall be provided such that it is likely to be readily visible after installation. The warning marking may be on the securement means or the plug / socket portion of the cable assembly. It may be necessary to provide more than one warning marking to assure ready visibility.
- b) the equipment installation instructions shall identify the intended cable assembly and repeat the warning that reads, "WARNING – DO NOT CONNECT OR DISCONNECT WHEN ENERGIZED", or equivalent; and
- c) when separated, the part which remains energized shall be a socket outlet.

8.8.1 The plugs and sockets shall be capable of being connected using one of the following wiring methods:

- a) extra-hard usage cord;
- b) instrumentation tray cable (Type ITC) for applications operating at 150 volts or less and 5 amperes or less; or
- c) power-limited tray cable (Type PLTC) for applications supplied by a Class 2 or Class 3 power source.

NOTE See the following Code references for additional details on these wiring methods: Extra-hard usage cord per Article 400 of the National Electrical Code, Instrumentation tray cable (Type ITC) per Article 727 of the National Electrical Code and Power-limited tray cable (Type PLTC) per Article 725 of the National Electrical Code.

8.8.2 Cable assemblies and the associated separate plugs and sockets shall be in accordance with UL 2238, "Cable Assemblies and Fittings for Industrial Control and Signal Distribution", or UL 2237, "Multi-Point Interconnection Power Cable Assemblies for Industrial Machinery".

8.8.3 Provision shall be made for the fixed part of a plug and socket connector to maintain the degree of protection of the enclosure on which it is mounted, even when the movable part has been removed. If the degree of protection is effectively reduced by accumulation of dust or water, provision shall also be made for maintaining an appropriate degree of ingress protection for the plug and/or socket.

2. Clause 13.5.1 (Evaluation of Sealed Devices) is modified for description of parameter "T1".

13.5.1 Oven aging

If the device contains a gasket or seal of elastomeric or thermoplastic material or a composition gasket utilizing an elastomeric material, each sample shall be subjected to temperature aging in a circulating air oven in accordance with the following formula:

$$t = 2685e^{-(0.0693)(T-T_1)}$$

where

t = the test time in hours

e = 2.7183

T = the aging temperature in °C

T1 = the maximum ~~service rated operating~~ temperature in °C (40°C minimum)

Schedule: So that shipping of products with Listing Marks will not be interrupted, an **approximate** schedule has been established to ensure Listing Reports are found compliant by Effective Date:

- November 28, 2014 = 8 Month Report Review – Intertek will review all Reports. Update if compliance is verified or issue Findings Letter/Quote for any re-evaluations needed
- January 30, 2015 = 6 Month Quote Cut-off – Quotes returned for necessary re-evaluations
- June 30, 2015 = 30 Day Warning – Client advised of all non-compliant Reports to be Suspended
- **July 31, 2015** = Effective Date – ATM Suspended for all non-compliant Reports

Fees: Work for this review will be quoted by the local Sales office for testing at an Intertek Testing Facility.

Client Action Required:

Information – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revised paragraphs noted in the attached or explain why these new/revised requirements do not apply to your product (s).

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



Standards Update Notice (SUN)

Issued: July 22, 2014

Description of New/Revised Technical Requirements

2013 Revisions (Affecting listings to previous editions of 2011 or 2012)			
Clause	Verdict	Comment	NC#
8.8		This clause adds a technical requirement for tool securing the external plugs and sockets in incendive circuits. A Warning marking is required; Documentation shall state the intended cable assembly to be used for these connectors, warning shall be repeated in documentation.	
8.8.1		Permitted Wiring methods for plugs and sockets are identified	
8.8.2		Reference to UL 2238 or UL 2237 is made	
8.8.3		Requirement for degree of protection for external plugs and sockets added.	
13.5.1		In parameter T1: "Rated ambient temperature" is replaced by "service temperature".	
		CUSTOMERS PLEASE NOTE: This Table and column "Verdict" can be used in determining how your current or future production is or will be in compliance with new/revised requirements.	