

Intertek C&E Management System		Page 1 of 5
Work Instruction (Inspection)		Document No.: WI-R-EMEA-CERT-INSP-PCS002
EMEA CERTIFICATION SCHEMES - PRODUCT CONTROL SPECIFICATIONS		
Issue Date:	Revision Date: 11 th Feb 2015	Approved by: Anders Delsborn
	Effective Date: 19 th Feb 2015	

1.0 Purpose

Product Control Specifications (PCS) specify the requirements for routine inspections, tests, Product Verification Tests and sample selection for products certified under an Intertek EU Type 5 certification scheme (including GS, S, BEAB, ASTA, ENEC, BAUART and TICK MARK). They are for use by manufacturers and by factory inspectors.

2.0 Scope

Products: Non-Rewirable products (rated 230Vac – 250Vac) fitted with a cord
Standards: IEC 60320, IEC 60884, IEC 60309, (S)
EN 50075, EN61995, EN 62196, EN 50066,
BS 1363, SS 428 08 34, SS 428 08 68, SS428 08 31, SEMKO 107 (CEE7)
DIN VDE 0620-1 + others
Marks: S, ASTA, GS, BAUART, TICK, ENEC

3.0 Routine inspections and tests

3.1 General

The following requirements apply to most products.

Variations may be permitted by prior, written agreement from the certification body.

The factory should have a quality plan defining all inspections and tests on materials, components and completed products as appropriate.

Completed products shall be marked to confirm satisfactory completion of all required testing.

Any products which fail inspection or testing shall be segregated and not allowed to continue through the process until rectified and re-inspected or retested.

Products shall not be released until the testing equipment has been checked again following a production batch.

Records of inspections and test should be maintained and held for at least two years (ten years for records of crimping tests).

Records shall include:

- Type of product
- Date of test
- Place of manufacture
- Quantity tested
- Number of failures and actions taken

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3.2 Required inspections and tests (for Intertek certification marks)

Inspection/test	Test parameters	Sampling plan
Crimping	1) Manufacturer shall define acceptable crimping, typically including: visual, crimping height, withdrawal force, mV drop. These parameters shall be used within ongoing production control.	Pre-production
	2) Before a crimping tool is used for production, at least 50 test crimps must be made with consistent results which are within the defined parameters from 1) above. Note: Intertek recommends reference to EN 60352-2 for test methods and guidance.	Pre-production for each crimping tool
	3) During production crimping shall be inspected to confirm compliance with the parameters defined in 1) above.	Three samples of each type of crimp at beginning and end of each shift (8 hours)
Control of stray conductor strands of after crimping (if not assured by product design)	Inspection	100%
All mouldings complete and free from defects	Visual, check to work instructions	100%
Dimensions and markings	Visual, check to work instructions. For BS 1363 plugs: use of BS1363 Figure 5 gauge is required unless otherwise agreed by Intertek.	3 samples at beginning of a batch and 3 samples at end of batch or after 8 hours, if sooner
Confirm correct fuse is fitted (if appropriate)	Visual, check to work instruction for configuration under manufacture	10 per day or shift

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3.2 Required inspections and tests (continued)

Inspection/test	Test parameters	Sampling plan
Integrity of assembly of non-solid moulded products (e.g. with welded, clipped or glued housings)	1) Pull test of at least 60N, test mark to be applied when passed. If this test cannot be made then the test below is applied with increased frequency of one sample every hour	100%
	2) Application of a controlled force to break the housing. Analysis of force at failure and failure mode, Investigation of any variances before release of batch.	3 samples per shift
Check functioning of electrical test equipment	To suit, e.g. dummy samples to confirm detection of each fault condition	Start and end of each shift
Correct polarity connection and continuity	SELV, 2 seconds (manual) SELV, 1 second (if automatic timing)	100%
Earth continuity (class I products with rated current less than 10A)	10A, 3 seconds (manual timing) 10A, 1 second (if automatic timing) Voltage drop is measured and resistance calculated. Resistance must not exceed 0.1Ω (no cord), 0.2Ω with cord or 0.1Ω + resistance of cord.	100%
Earth continuity (class I products with rated current 10A and above)	25A, 3 seconds (manual timing) 25A, 1 second (if automatic timing) Voltage drop is measured and resistance calculated. Resistance must not exceed 0.1Ω (no cord), 0.2Ω with cord or 0.1Ω + resistance of cord.	100%
Dielectric strength, L+N to PE and L to N	2,000Vac, 2 seconds (manual) 2,000Vac, 1 second (if automatic timing) No flash-over or breakdown Leakage current not to exceed 0.5mA + 1mA per metre of flexible cord, 25mA max. Alternatively, Impulse test: 1.2/50uS wave form, 4kV peak, 3 impulses for each pole at 1 second intervals. No flashover shall occur	100%
Dielectric strength, L+N +PE to surface	3,000Vac, 2 seconds (manual) 3,000Vac, 1 second (if automatic timing) No flash-over or breakdown Leakage current not to exceed 0.5mA	100%

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3.3 Required inspections and tests (for ENEC Marked products)

In addition to the inspections and tests detailed in section 3.2, the requirements of document ENEC 303 Annex Y shall be fulfilled for IEC 60309 products and Annex W for IEC 60320 products.

4.0 Product Verification Tests/Periodic testing (refer to CIG 021 clause 4.8)

Product verification tests are in addition to the production line inspection and routine tests and are performed on samples taken randomly from the production line.

The manufacturer is responsible for conducting or arranging for the following periodic testing to be completed. Records shall be available for review during factory inspection visits.

Certification Mark	Frequency	PVT/periodic testing required
All	Annual	<p>PVT not mandatory but it is recommended to demonstrate ongoing compliance with EU Directives.</p> <p>The following PVT is recommended:</p> <ul style="list-style-type: none"> • Marking • Dimensions and compatibility • Protection against electric shock • Provision for earthing • Terminations • Construction • Insulation resistance and electric strength • Flexible cables and cords and their connection • Mechanical strength • Creepage and clearance distances • For multiple socket-outlets to VDE 06320-1: temperature rise test to clause 19 with test current 20A for all parts (plug, cable, socket-outlet). See EK1 08-370 for details
ENEC	Annual	PVT according to document ENEC 303 Annex Y shall be fulfilled for IEC 60309 products and Annex W for IEC 60320 products.

Intertek certification offices can advise on any aspect of PVT and can provide the testing service if required.

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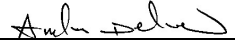
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5.0 Surveillance testing by the Certification Body

If required, samples are selected during the factory inspection and the manufacturer should send these to the address provided. If samples are required but not available at the time of the inspection, the manufacturer should send these as soon as they become available. If there is no stock or production, the manufacturer should advise the certification body that samples will not be provided due to no production.

The certification body will arrange for the required testing to be completed. This will be charged to the manufacturer or Licence holder. A report of the testing will be provided.

Certification Mark	Surveillance testing requirements
ASTA	Samples to be selected each year as detailed on the sample selection record (form AFT-17) provided to the inspector before each visit.
SEMKO	Regular selection of samples is not required. Samples may be required if any deviations to the type tested or non-compliance with the product standard are suspected

Document History				
Revision No.	Date	Changes	Name & Title	
			Author	Approving Official
1	11/02/2015	Original issue	R W Hayward	

End of Document

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