

<b>Intertek C&amp;E Management System</b>		Page 1 of 6
<b>Work Instruction (Inspection)</b>		<b>Document No.:</b> <b>WI-R-EMEA-CERT-INSP-PCS038</b>
<b>EMEA CERTIFICATION SCHEMES - PRODUCT CONTROL SPECIFICATIONS</b>		
Issue Date:	Revision Date: 11 <sup>th</sup> Feb 2015	Approved by: Anders Delsborn
	Effective Date: 19 <sup>th</sup> 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: Portable residual current operated circuit-breakers without integral over-current protection

Standards: IEC 61540

Marks: S, BG, TICK

### 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.

Records shall include:

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

*~ Note: After printing or download, this document is no longer under control and shall be used for reference only. ~*

Intertek C&E Management System		Page 2 of 6
Work Instruction (Inspection)		Document No.: <b>WI-R-EMEA-CERT-INSP-PCS038</b>
<b>EMEA CERTIFICATION SCHEMES - PRODUCT CONTROL SPECIFICATIONS</b>		
Issue Date:	Revision Date: 11 <sup>th</sup> Feb 2015	Approved by: Anders Delsborn
	Effective Date: 19 <sup>th</sup> Feb 2015	

### 3.2 Required inspections and tests

Inspection/test	Test parameters	Sampling plan
Checking of tripping test	<p>Shall be made according to Annex B.1 of IEC 61 540.</p> <p>A residual current is passed trough each current path of the PRCD in turn.</p> <p>The PRCD shall not trip at a current less than or equal to <math>0,5 I_{\Delta n}</math>, but shall trip at <math>I_{\Delta n}</math> within specified time (Table 2 of IEC 61 540).</p> <p>The test current shall be applied at least five times on each PRCD and should be applied at least twice on each pole.</p>	100%
Checking of electric strength test	<p>Shall be made according to Annex B.2 of IEC 61 540.</p> <p>A voltage of substantial sinusoidal waveform of value 1 500 V having a frequency of 50/60 Hz is applied for 1 s between the following parts:</p> <ul style="list-style-type: none"> <li>- with the PRCD in open position, between each pair of terminals which are electrically connected together when the PRCD is in the closed position;</li> <li>- for PRCD's not incorporating electronic components, with the PRCD in the closed position, between the two current paths</li> <li>- for PRCD's incorporating electronic components, with the PRCD in the open position, either between each of the two incoming terminals or between each of the two outgoing terminals so that the voltage is not applied to the electronic</li> </ul>	100%

*~ Note: After printing or download, this document is no longer under control and shall be used for reference only. ~*

Intertek C&E Management System		Page 3 of 6
Work Instruction (Inspection)		<b>Document No.:</b> <b>WI-R-EMEA-CERT-INSP-PCS038</b>
<b>EMEA CERTIFICATION SCHEMES - PRODUCT CONTROL SPECIFICATIONS</b>		
Issue Date:	Revision Date: 11 <sup>th</sup> Feb 2015	Approved by: Anders Delsborn
	Effective Date: 19 <sup>th</sup> Feb 2015	

	<p>components.</p> <ul style="list-style-type: none"> <li>- between the terminals of all current paths connected together and the earth path.</li> </ul> <p>No flashover or breakdown shall occur.</p>	
Performance of the test device	<p>Shall be made according to Annex B.3 of IEC 61 540.</p> <p>With the PRCD in the closed position and connected to a supply at 0, 85 times rated voltage, the test device shall be operated and the PRCD shall be open.</p> <p>Where the test device is intended to operate at more than one value of voltage, the test shall be made at 0, 85 times the lowest value of voltage.</p>	100%
Stray wire test	<p>Shall be made according to Annex B.4 of IEC 61 540.</p> <p>Each moulded-on PRCD shall withstand a high-voltage test at the rated frequency of the device, applied between all current-carrying parts connected together and conducting electrode in contact with the entire outer accessible surface, omitting the engagement face.</p> <p>This test shall be carried out at 6 kV a.c. for a period of between 3 s and 5 s.</p> <p>During the test, no flashover or breakdown shall occur. Glow discharges without drop in voltage shall be disregarded.</p>	100%
Correct continuity test	Shall be made according to Annex B.5 of IEC	100%

*~ Note: After printing or download, this document is no longer under control and shall be used for reference only. ~*

<b>Intertek C&amp;E Management System</b>		Page 4 of 6
<b>Work Instruction (Inspection)</b>		<b>Document No.:</b> <b>WI-R-EMEA-CERT-INSP-PCS038</b>
<b>EMEA CERTIFICATION SCHEMES - PRODUCT CONTROL SPECIFICATIONS</b>		
Issue Date:	Revision Date: 11 <sup>th</sup> Feb 2015	Approved by: Anders Delsborn
	Effective Date: 19 <sup>th</sup> Feb 2015	

	<p>61 540.</p> <p>PRCDs of non-rewirable type (PRCD with cord extension set or PRCD incorporating the plug and equipped with a non-rewirable cord) shall be subjected to the following tests as appropriate.</p> <p>Compliance shall be checked using any suitable voltage.</p> <ul style="list-style-type: none"> <li>- for PRCD incorporating the plug and equipped with a non-rewirable cord: between the remote end of each conductor including a PE conductor of the flexible cord mounted independently and the corresponding pin or contact of the PRCD</li> <li>- for PRCD with cord extension set: Between each plug pin or contact including PE and the corresponding pin or contact at each socket of the PRCD</li> </ul> <p>There shall be continuity present and the polarity shall be correct, if relevant.</p>	
--	---	--

*~ Note: After printing or download, this document is no longer under control and shall be used for reference only. ~*

<b>Intertek C&amp;E Management System</b>		Page 5 of 6
<b>Work Instruction (Inspection)</b>		<b>Document No.:</b> <b>WI-R-EMEA-CERT-INSP-PCS038</b>
<b>EMEA CERTIFICATION SCHEMES - PRODUCT CONTROL SPECIFICATIONS</b>		
Issue Date:	Revision Date: 11 <sup>th</sup> Feb 2015	Approved by: Anders Delsborn
	Effective Date: 19 <sup>th</sup> Feb 2015	

#### 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.

<b>Certification Mark</b>	<b>Frequency</b>	<b>PVT/periodic testing required</b>
SEMKO BG TICK	Annual	For each basic type certified, the following tests according to the product standard: 6.1 Marking 6.2 Instruction sheet 9.4 Reliability of screws, current-carrying parts and connections 9.5 Reliability of terminals for external conductors 8.1.6 Reliability of termination for non-rewirable PRCDs 9.6 Protection against electric shock 9.7 Dielectric properties 9.9 Residual operating characteristics 9.12 Resistance to mechanical shocks and impacts

#### 5.0 Surveillance testing by the Certification Body

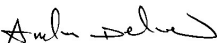
If required, samples are selected during the factory inspection and the manufacturer should send these to the address provided. If samples are required but not available at the time of the inspection, the manufacturer should send these as soon as they become available. If there is no stock or production,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

<b>Certification Mark</b>	<b>Surveillance testing requirements</b>
SEMKO, BG, TICK	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

*~ Note: After printing or download, this document is no longer under control and shall be used for reference only. ~*

<b>Intertek C&amp;E Management System</b>		Page 6 of 6
<b>Work Instruction (Inspection)</b>		<b>Document No.:</b> <b>WI-R-EMEA-CERT-INSP-PCS038</b>
<b>EMEA CERTIFICATION SCHEMES - PRODUCT CONTROL SPECIFICATIONS</b>		
Issue Date:	Revision Date: 11 <sup>th</sup> Feb 2015	Approved by: Anders Delsborn
	Effective Date: 19 <sup>th</sup> Feb 2015	

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

End of Document

*~ Note: After printing or download, this document is no longer under control and shall be used for reference only. ~*