

OSM/IN DECISION

Standard: EN 61643-11:2012	Sub clause: 8.3.5.2	Sheet N°: OSM/IN 269
Subject: Sample preparation for thermal stability test	Key words: - thermal stability - sample preparation	Meeting N°: -- Item: -- Enquiry dates: 2014-03-03 / 2014-04-25
Question:	<p>How to correctly prepare SPDs with multiple varistors in parallel, each of which comprises its own disconnecter?</p> <p>The sample preparation requires that current paths with different components are tested separately, but „components of the same type and parameters which are connected in parallel shall be tested as one current path“. This leads to an unbalanced and unfair situation during the thermal stability test for SPDs with identical parallel connected components, compared to SPDs with different parallel connected components.. If there are different components in each path, every path is tested separately starting with 2mA and increasing step by step. But if e.g. several varistors are connected in parallel (every varistor with its own disconnecter), every thermal disconnection of a single varistor during test causes an immediate current increase in the remaining varistors due to the current regulation. This goes on until the stepwise current increase for the remaining varistors becomes big enough to cause a sudden collapse of one of the remaining varistors and as a result of that no thermal disconnection is possible any more, but instead a shot through/short circuit of the varistor(s) occurs.</p>	
Decision:	<p>The following improved requirement shall be applied:</p> <p>8.3.5.2 Thermal stability</p> <p>Sample preparation For SPDs with non-linear protective components connected in parallel, this test has to be performed for every current path of the SPD with a separate independent disconnecter section, by disconnecting/interrupting all the remaining current paths. If components of the same type and parameters are connected in parallel and identical parts and construction are used for every single disconnecter section belonging to each of these components, testing of any three of these identical current paths may fulfil the 3 sample requirement.</p> <p style="text-align: right;"><i>To be continued</i></p>	

DRAFT OSM/IN DECISION

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Explanatory notes:	<p>To follow the decision for future standard improvement, taken at the CLC TC37A WG1 meeting on 5th February 2014 in Paris.</p> <p>Extract from the minutes:</p> <p style="text-align: center;">Thermal stability test – sample preparation</p> <p style="text-align: center;">The WG1 agreed for future improvement of EN 61643-11</p> <ul style="list-style-type: none"> • Future 8.3.5.2 will read: <hr/> <p>8.3.5.2 Thermal stability</p> <p>...</p> <p>Sample preparation</p> <p>For SPDs with non-linear protective components connected in parallel, this test has to be performed for every current path of the SPD with a separate independent disconnecter section by disconnecting/interrupting all the remaining current paths.</p> <p>If components of the same type and parameters are connected in parallel and identical parts and construction are used for every single disconnecter section belonging to each of these components, testing of any three of these identical current paths may fulfill the 3 sample requirement.</p>	