

TOPAS0601 Template for comments and TOPAS Board Observations

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Date: 13 th January 2022	Document TR2130B
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(1)	(2)	(3)	(4)	(5)	(6)	(7)
See note 1	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of comment ²	Comment (justification for change)	Proposed change	TOPAS Board observations on each comment submitted
	2.2		GE	<p>Observation – Please see separate email supplied. Included below in comments</p> <p>Section 2.2 Random Vibration is clear in that it states “Operational” i.e. Operational vibration test and not Transportation vibration test is required. However as explained within the accompanying email, TSRGD includes both Operational & Transportation testing requirements.</p>	<p>Consideration should be given to how best (if at all) this can be clarified within TOPAS 2130.</p>	<p><i>Not implemented as after review by Board agreed that only the Operational Vibration test will continue to be required.</i></p> <p>Explanatory Note: <i>Although TSRGD does call for both Operational and Packaged for Transport tests as defined in EN 50556:2011, 50556 generally reserves the “Package for Transportation test” for markets where “suppliers” do not provide final onsite testing before handing over to normal operation.</i></p> <p><i>In the UK, equipment is always commissioned on site before being handed over, (and also the Package for Transport test is particularly violent and not always considered representative of how Controllers in particular are transported), so traditionally only the Operational test has been performed (For permanent equipment).</i></p>

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NOTE Columns 1, 2, 4, 5 are compulsory.

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	2.5.1		te	I understand that BS EN 60068-2-29 Test Eb has now been superseded by BS EN 60068-2-27 Test Ea.	This test shall be carried out in accordance with BS EN 60068-2-27 Test Ea.	<i>Agreed – implemented. Some details of the test have also been updated slightly to align with the Test Standard.</i>
	3.1, 3.2, 3.3 & 3.4	All	ED	Paragraphs 3.1 – 3.4 are incorrectly numbered and should be 6.1 – 6.4	3.1, 3.2, 3.3 & 3.4	<i>Agreed - implemented</i>
	3.3	3.3.2	TE	Section 3.3 details the requirements for Constant High Temperature. The temperature requirements of 60°C for 16 hours are too low to effectively replicate the effects of solar gain on a black controller cabinet.	Investigate increasing the ambient temperature to circa 75°C. One approach may be to test at 75°C for 8 hours, and then the remaining 8 hours at 60°C, which would broadly replicate the heating effects of a hot summer day.	<i>Not Implemented. Agreed by Board not to change this requirement but to add a solar radiation test (as an option to be selected by the Manufacturer), where the product is likely to be subject to solar radiation, for example a controller signalling equipment or an above ground detector.</i>
	3.7.1		te	“four perpendicular axis”. Does this mean 2 perpendicular axis and 4 wind directions? Or does it mean 4 axis with 45 degrees	The equipment when mounted on its support as for use, is required to withstand a wind force of up to 26m/s applied in each direction along each of two perpendicular axes in the horizontal plane, without toppling over or sustaining	<i>Agreed in principle – slightly different wording used “The equipment when mounted on its support as for use, is required to withstand a wind force of up to 26m/s applied along four axis at 90 Degrees to each other, in the horizontal plane, without toppling</i>

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				<p>between axis and 8 wind directions?</p> <p>I suspect it is the former but it is not clear.</p>	damage.	<i>over or sustaining damage". Also, a small diagram added for clarity.</i>
	3.7.2		te	<p>"as agreed with the Test Facility"</p> <p>It is not suitable for an environmental test facility typically set up to test the remaining tests to agree whether the wind stability can be demonstrated by a calculation.</p> <p>A wind testing facility will obviously tend to state that compliance should be done by test otherwise they will lose that revenue.</p> <p>I understand that it is the TOPAS independent assessor and TOPAS themselves who will agree upon submission of the technical file whether they accept the compliance by calculation.</p> <p>Would it not be best for TOPAS to consider whether they will accept a calculation in principle so that manufacturers know that this</p>	The ability to meet this requirement shall be demonstrated by testing (such as a wind tunnel test) or by a calculation undertaken by a Professionally Qualified Structural engineer which shall be included in the Technical File submitted for Registration.	<i>Agreed - implemented.</i>

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				<p>is a viable alternative in advance?</p> <p>Also, there is no indication on who can perform the calculation. I understand that the calculation can not be done by the manufacturer, rather it needs to undertaken by a Professionally Qualified Structural Engineer, which shall be included in the Technical File submitted for Registration.</p>		
	3.7.2			<p>Given the above proposed change it would be best to define what is meant by a “Professionally Qualified Structural Engineer” in the Glossary of Terms.</p> <p>For example, DMRB CG 300 defines this as “CEng MICE, CEng MIStructE or equivalent.”</p>	Professionally Qualified Structural Engineer: Qualified as CEng MICE, CEng MIStructE or equivalent.	<i>Agreed - implemented.</i>
	3.7.1 and 3.7.2			For demonstration of compliance by calculation it would be useful to at least specify any standard to be used in a new requirement. For example: Eurocodes, BS EN 1990 and BS EN 1991-1-4.	3.7.3: Demonstration of compliance by calculation shall be performed by utilising BS EN 1990 and BS EN 1991-1-4.	<i>Agreed - implemented.</i>
	3.7.1 and 3.7.2			The maximum wind speed of 26m/s is clear when testing in a wind tunnel.	The equipment when mounted on its support as for use, is required to withstand a wind	<i>Agreed - implemented.</i>

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				<p>However, for demonstration via calculation this needs clarification. Is 26m/s the maximum wind speed including gusts in exposed locations? Or is 26m/s the fundamental basic wind velocity or the basic wind velocity? (If utilising BS EN 1991-1-4).</p> <p>Note, the earlier TR 2130 specification on which TOPAS 2130B is based had a figure of 22m/s steady wind speed and a 30m/s gust speed for portable and fixed devices in normal locations. It would be useful to know the history of how the 26m/s was set to help answer this.</p> <p>Care should be taken when clarifying this to not cause portable traffic and pedestrian lights to be over engineered and become non-portable due to their weight and/or footprint.</p>	force of up to 26m/s (including gusts in exposed locations) applied in each direction along each of two perpendicular axes in the horizontal plane, without toppling over or sustaining damage.	
	4	All	GE	<p>Observation – Should this section be expanded to make reference to the potential requirement for RED testing (if applicable). This may serve to assist any applicant in</p>	4	<i>Agreed – additional text added to section 4.1: “Specifically, where equipment includes radio transmitters or radio receivers, the requirements of the Radio</i>

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				helping them to consider the potential requirement for this testing.		<i>Equipment Regulations (2017) and its amendments must be complied with"</i>
	Appendix A	Table 1 2.3 Impact	TE	The table in Appendix A states that the Impact tests (2.3) are not required for compliance against TOPAS 2500, however EN50556 details this to be a mandatory requirement. Observation – The wording of 2.3 Impact & 2.4 Mechanical Protection appear to be almost identical, which can be a little confusing in terms of determining which test is required.	Amend table to show this as a requirement for a registration against TOPAS 2500.	<i>Agreed – Tests combined into a single test – Impact, but differing allowed impacts results defined depending on the equipment being tested. Explanatory Note. BS EN 50556 calls up BS EN 50102 for impact tests, but this has been superseded by BS EN 62262 (Which is the standard referred to in TOPAS 2130). The tests for 2.3 and 2.4 were essentially the same but the damage which is permitted is slightly different with 2.3 being aimed at lenses and 2.4 at enclosures</i>
				“presentation of test samples”. Just to clarify what I mean here, TOPAS 2130 makes no reference to the test sample to be used, however EN50556 includes some information relating to the presentation of test equipment, and the product build		<i>Agreed – A new sub-section “Presentation of Test Samples” has been added to Section 1 of the specification.</i>

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				<p>configurations that should be used for product tests; This information appears to suggest that the product submitted for testing should be a “fully loaded” sample, that includes the maximum number of signal group outputs, and all possible optional extras. Similarly, there is also some ambiguity regarding the requirement for testing to be undertaken on products variants of differing voltages (for Controllers LV & ELV).</p>		

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