



Project-ID: --

**Report for fire performance according to EN 45545-2
Fire protection on railway vehicles**

Product:

942 025 - 001
OS20-001000T5T5TAFUHB

AGILE Doc-ID:

000177125DNR

Date

31.01.2019

Content

No.	Item	Page
1	History	2
2	Scope	2
3	Equipment under zest	2
3.1	Related Equipment	2
4	Requirements	2
4.1	Essential fire safety objectives	2
4.2	Hazard level	2
5	Test procedure	3
5.1	Evaluation of the components	4 to x
6	Conclusion	1

Releases

Simone Kiesel

Approved by: Simone Kiesel

Date:

Date: 31. Jan 19

Conclusion

The total combustible mass of the components that must be verified is < 100gr.

The device is compliant to the requirements of EN 45545 – 2 Hazard Level HL3.



Project-ID: --

1. History

Rel.	Date	Released	Author	Changes
1v0	2014-04-17	Y	Paul Eberling	Document created
2v0	2019-01-31	Y	Simone Kiesel	New issue date of the standard

2. Scope

This report describes the procedure and the tests that are done to evaluate whether the device meets the requirements according to EN 45545-2: 2013 + A1:2015.

3. Equipment under test

Product Code	Order Number	Serial Number
OS20-001000T5T5TAFUHB	942025001	-

3.1 Related Equipment

Product Code	Order Number	Serial Number
n.a.		

4. Requirements**4.1 Essential fire safety objectives**

The design of rolling stock and the products used shall incorporate the aim of limiting fire development should an ignition event occur so that an acceptable level of safety is achieved.

4.2 Hazard level

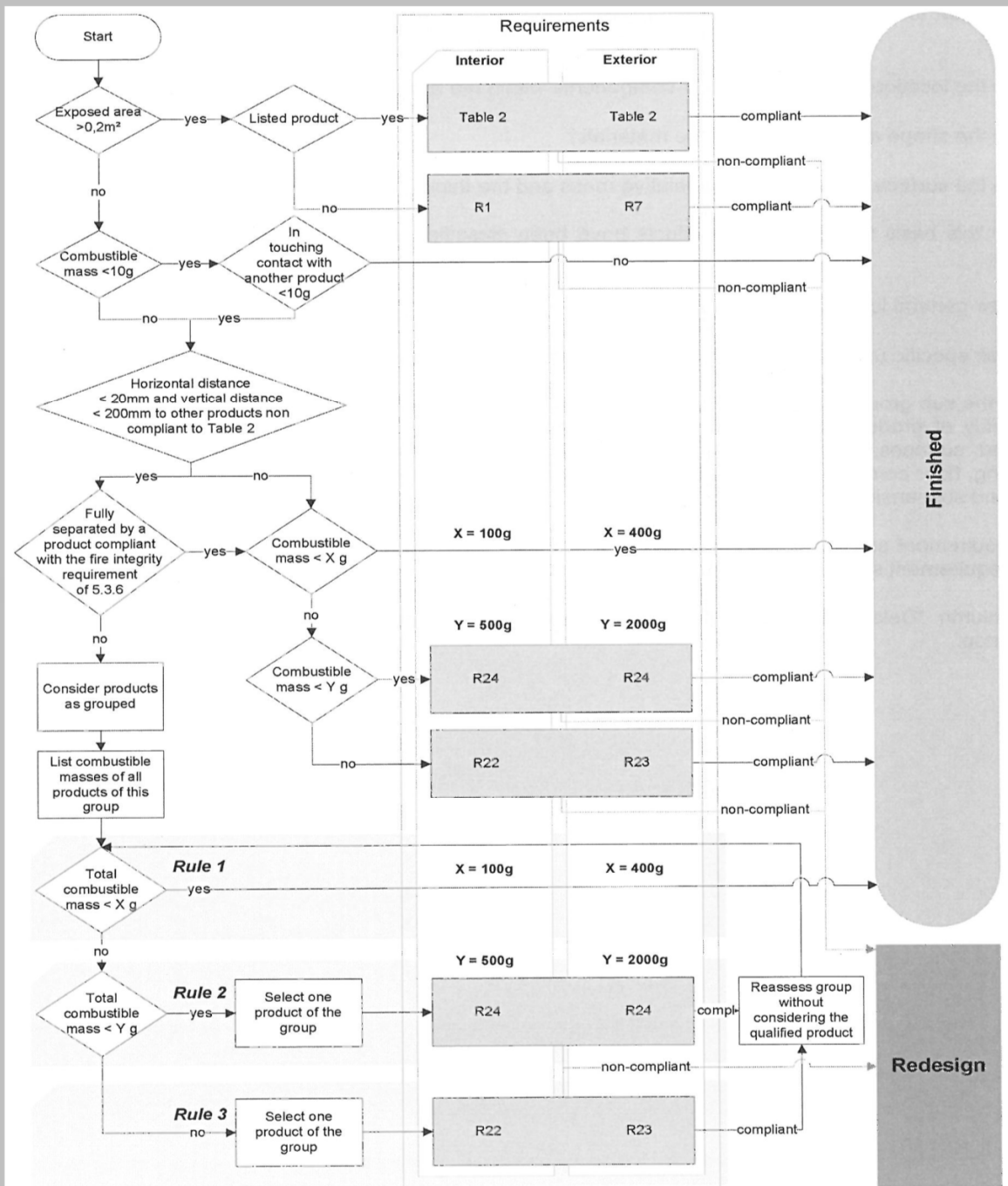
The Hazard level for the device under test is: HL3

Project-ID: --

5. Test procedure

According to EN 45545-2 capture 4.3 there are no requirements to products with a combustible mass of < 10 g not in touching contact with another unclassified product and the exposed area is < 0,2m². For grouped products no requirements apply to the products if the combustible mass is < 100 g. The assessment process for all parts of the device is visualized in the following flow chart (Figure 1).

Figure 1:





Project ID --

5.1 Evaluation of components

SAP BOM Pos.	Hirschmann Part number	Hirschmann part description	quantity	combustible mass per unit [gr]	comments	total combustible mass [gr]
	Z05S05 942025001					
0040	742317001	OS20 10TX LV, Gehäuse	1	10,00	< 10gr. Same housing as OCTOPUS 8M-Train >>> see 000174077DNR - Datei 1120889.xls	10,00
0080	737887001	OCTOPUS 8M, Gehäuse Rückwand	1	0,00	Aluminium part	0,00
0100	737888001	OCTOPUS 8M, Dichtung	1	6,00	measured	6,00
0110	255962000	ZYL-SCHR.M 4X16 NRST	8	0,00	Metall part	0,00
0120	742475001	OS20 10TX unman. oPoE LV, Frontaufkleber	1	9,00	measured	9,00
0200	742237001	Haftetikett 57x30 3M7818 silbermatt	2	0,50	calculated - density 1,4 g/cm3	1,00
0210	743887001	HAFTETIKETT 38,1 x 6,35 PS WS	1	0,08	calculated - density 1,4 g/cm3	0,08
0220	742321002	Aufkleber bedruckt, Funktionserde	1	0,01	calculated - density 1,4 g/cm3	0,01
0299	PCBA		0,01			
0300	837570105	OS20 10TX um. oPoE LV, Haupt -LP,best.CC	1			0,00
		tested parts of PCBA:				
		PCB: 742284001 OS20 xTX oPoE LV, Leiterplatte (Haupt)	1	0,00	PCB fulfills the requirements of table 2 EN45545 for PCB's - R24 OI= 32% see OI testreport AGILE DOC-ID: 000169388DNR	0,00
		If suitable products which achieve the requirements are not available on the market, the electronics devices on printed boards are approved on functional necessity. According to Capture 4.7 of EN 45545-2.			The M12 contact housings we use are UL94V0 listed - see AGILE Doc-ID: 000177321DNR	
0420	253368000	L-SCHR.AM 3X6 ST/NI	9	0,00	Metall part	0,00
0440	257307000	ZAHNSCHEIBE A 3,2 ST/ZN	1	0,00	Metall part	0,00
0610	210906000	M12 Gehäuseeteil f.Federleiste	10	0,00	Metall part	0,00
0620	210907000	M12 Gehäuseeteil f.Messerleiste	1	0,00	Metall part	0,00
0630	257209000	6KT-MUTTER M 14X1 MS/NI	11	0,00	Metall part	0,00
0640	219379000	O-RING 7X1 (FKM-LABSFR. -40 GRAD) GRUEN	10	0,04	calculated, density 1,9 mg/mm ³	0,44
0650	219386000	O-RING 14X1 NBR BIS -40 GRAD)	11	0,08	calculated, density 1,9 mg/mm ³	0,88
0700	737763001	OCTOPUS 8M, Light-Pipe	12	0,09	measured	1,13
0710	737829001	MICE-NG, Wärmeleitpad	2	0,00	Table 2: EL10 >> R26 V0 material Data-Sheet see Doc-ID 000159718DNR (Bergquist) Table 2: EL10 >> R26 V0 material Data Sheet see Doc-ID 000171434DNR (MTC)	0,00
0740	211801000	Laschenstopfen 12xy 1,5 natur-PE-LD	10	1,00	only used for shipping. To preserve the suitability of your device for IP65/67 :Seal unused sockets and plugs with your desired type of protection screws -> 742276001 OCTOPUS, Verschluss-Schraube (metal); 734209200 Verschluss-Schraube M12X1 VS	10,00
0750	211740000	Gew.-Schutzkappe M12X1 rot	1	0,00	only used for shipping	0,00
						0,00
					Total:	38,5