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TECHNICAL REPORT

Sayfa Group (Europe) Ltd Unit B1 Research Point Shepshed Leicestershire LE19 1WH United Kingdom	SATRA reference:	SPC10467W6M9	
		2410	3
	Report ID/Issue number:	38023/2	
	Your reference:		
	Date samples received:		
	Date(s) work carried out:	06/03/2024 to 07/03/2024	
	Date of report:	04/06/2024	

Testing Requirements

Testing of a counterweight davit arm described as "ESW.1500.3800.2U" in accordance with CEN/TS 16415:2013 type E for up to 2 users

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Report Signed by:

Edward Brooks

Report Signatory

WORK REQUESTED

Samples of anchor device, described as “ESW.1500.3800.2U”, were made available to SATRA on the 6th March 2024, for testing in accordance with CEN/TS 16415:2013 type E

CONCLUSIONS

SAMPLE REFERENCE	STANDARD	CLAUSE / PROPERTY	PASS / FAIL
ESW.1500.3800.2U	CEN/TS 16415:2013 Type E	4.1 General	PASS
		4.2 Specific requirements – type E	PASS

TESTING

Testing was carried out in accordance with CEN/TS 16415:2013 between the 6th & 7th March 2024 in the presence of representatives from Sayfa Group

The anchor device is intended as a type E (Dead weight anchor) device

For the purposes of testing, the anchor device was installed onto concrete with 516kg in plate masses added to the anchor, with test forces applied in a vertical direction

Samples were tested as received, and were not subject to any pre-conditioning processes other than those stated in individual test clauses

Figure 1 – Anchor device described as “ESW.1500.3800.2U”

TEST RESULTS

Table 1 – Testing of anchor device described as “ESW.1500.3800.2U” in accordance with CEN/TS 16415:2013 as a type E device

CEN/TS 16415:2013 CLAUSE / TEST	CEN/TS 16415:2013 REQUIREMENT	RESULT / COMMENT	PASS / FAIL
4.1 General	Anchor devices intended for use by more than one person simultaneously shall conform to EN 795:2012	See report SPC0349173 [31282/2] for results	PASS
4.2.6.1 Specific requirements – Type E anchor dynamic performance test	When tested dynamically with a rigid steel mass of 200 kg (2 users), the test mass shall be arrested. A further dynamic test shall be carried out on the same system in accordance with EN 795: 2012, for each additional user claimed. The tests masses, or an equivalent force shall be applied to the line to simulate the number of users already fallen.. 3 minutes after the drop, the displacement L of the leading edge of the anchor shall not exceed 1000mm and the anchor shall remain stationary. The displacements L & H shall be recorded	Roof surface: Concrete Angle of roof: 5° Condition: Dry 200kg test mass arrested Peak arrest force: 8.3kN Displacement of anchor: 0mm Displacement of mass: 0.48m Displacement of anchor (+15 minutes): 0mm Displacement of mass (+15 minutes): 0.48m Roof surface: Concrete Angle of roof: 5° Condition: Wet 200kg test mass arrested Peak arrest force: 9.8kN Displacement of anchor: 0mm Displacement of mass: 0.38m Displacement of anchor (+15 minutes): 0mm Displacement of mass (+15 minutes): 0.35m	PASS
4.2.6.2 Specific requirements – Type E anchor maximum angle	The dynamic performance test shall be carried out at the maximum angle up to 5° which the manufacturer permits, under each worst case condition, with regard to surface type and conditions	Angle of roof: 5°	PASS
4.2.6.3 Specific requirements – Type E anchor critical direction	The dynamic performance test shall be carried out in each critical direction in which an arrest force could be applied	Not applicable – only 1 critical direction of loading	N/A

CEN/TS 16415:2013 CLAUSE / TEST	CEN/TS 16415:2013 REQUIREMENT	RESULT / COMMENT	PASS / FAIL
4.2.6.4 Specific requirements – Type E anchor post arrest suspension test	After 15 minutes of the dynamic performance test, the anchor device shall hold 600kg (+100kg for each additional use) for 3 minutes with a maximum displacement of 10mm. The device shall remain stationary after 3 minutes.	Roof surface: Concrete Angle of roof: 5° Condition: Dry 600kg sustained for 3 minutes following the dynamic performance test without failure Additional displacement of anchor: 0mm	PASS
		Roof surface: Concrete Angle of roof: 5° Condition: Wet 600kg sustained for 3 minutes following the dynamic performance test without failure Additional displacement of anchor: 0mm	
4.2.6.5 Specific requirements – Type E anchor static strength test	Metallic elements shall sustain a force of at least 13kN (+1kN for each additional user) for 3 minutes without release, and non-metallic elements shall sustain a force of at least 19kN (+1kN for each additional user) for 3 minutes without release	13kN sustained for 3 minutes without failure See notes 1 & 2	PASS

ADDITIONAL INFORMATION / NOTES

Table 2 – Additional uncertainty of measurement information

CLAUSE	TEST / COMPONENT	UoM
Specific requirements – Type E anchor deformation test	Applied Force	±50N
Specific requirements – Type E anchor dynamic performance test	Length Measured	±20mm
Specific requirements – Type E anchor used with a retractable type fall arrester	Length Measured	±20mm
Specific requirements – Type E anchor static strength test	Applied Force	±50N
Corrosion resistance	Temperature	± 0.99 °C
	Fall-out rate of collected solution	± 2.25 ml (± 0.04 ml/hour for 24 hours)
	Specific gravity of collected solution	± 0.0010 g/ml
	pH value of collected solution	± 0.1
	Angle of sample mounting (if applicable)	± 1.44°

Note 1 – Estimated uncertainty of measurement applied at point of test (e.g. to applied force or to tolerance limits) to ensure product meets requirements of the standard

Note 2 – Static strength testing carried out by manually increasing loading, therefore rate of stressing / crosshead velocity as per EN 364: 1992 Clauses 4.1.2.1 & 4.1.2.2 cannot be accurately determined (see VG11 recommendation for use sheet CNB/P/11.023 dated 25.10.2007)

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When reporting results against a conformance statement (Pass/Fail or the allocation of a class or level) then uncertainty of measurement is taken into account based on a non-binary acceptance which itself is based on the guard band being equal to the expanded uncertainty.

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