TEST REPORT N. **4213434/E** date: 27/09/2023

CLIENT: **EVOC Sports GmbH**
Tegernseer Landstraβe 37A
81541 München
Germany

SR

FOR THE ATTENTION OF: Tobias Reischle

DC 17539

SAMPLING: done by the Applicant

SAMPLES RECEIVED: 14/09/2023

TEST PERIOD: 19-27/09/2023

SAMPLES: Body armor, art. "**TORSO PROTECTOR**", size L/XL for cycling, skiing and snowboarding use with chest and back protector declared entirely made of a black TPE partially perforated and light gray marked "EVOC".
The fastening system are black elastic straps **(1)** fixed in to DPI by means of a polymeric button.

REQUEST: Laboratory tests in accordance with Internal method Ricotest me-int 097-08, EN 1621-2:2014 and EN 1621-3:2018 for the aim of the Certification (Regulation (EU)2016/425).

OUTCOME: **PASS**

Notes:
All results refer exclusively to the tested materials as received.
Partial reproduction or publication not admitted without written authorization by RCT.
Positive results of a test report do not imply that the tested product is "certified" or "approved" by RCT.
Comments and interpretations are of subjective nature and not part of the Test Report.
Test carried out by qualified partner lab ISO 17025.
* Test not accredited by Accredia
Conformity assessment criterion: the result is considered compliant until the value falls within or coincides with the specification limit.
Unless otherwise indicated, the test conditions correspond to the reference standard.

M22 rev08 del 01/01/2023

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References	Tests	Measuring unit	Requirements	Results
Internal method Ricotest me-int 097-08*	**Body armor - Assembly of protectors of the trunk and upper arms**			
-	Sizing - commercial size - back: WS range - shoulder protectors - elbow protectors - chest protection	 - cm - - -	 - - Type A/TypeB Type A/TypeB Type A/TypeB for EN 1621-3 or chest girth min-max for EN 14021	 XL 48-52 - - type B
-	Back protector		Accordant with EN 1621-2	pass
-	Chest protection		Accordant with EN 14021 or EN 1621-3 or not declared as a protector, only used for aesthetic purposes	pass

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References	Tests	Measuring unit	Requirements	Results
EN 13688:2013 +A1:2021 4.4 4.4.1 – 4.4.2 Annex C*	Comfort - the protective garment should provide a level of comfort consistent with the provided level of protection;		pass	pass
	- it has not got any rough, sharp or hard surfaces which may chafe or injure the user;		pass	pass
	- it shall not be so tight that blood flow and deep breathing are restricted;		pass	pass
	- it shall not be so loose/tight that it interferes with the user's movements;		pass	pass
	- the garment design is appropriately proportioned and positioned;		pass	pass
	- the adjustement system range is adequate;		pass	pass
	- it allows the user to perform the following movements: standing, sitting, walking, stair climbing, raising both hands above the head, bending over;		pass	pass
	- the sleeves should not be so long that they interfere with the movements of the hands;		pass	n.a.
	- it should not have flapping parts which move independently and inconveniently;		pass	pass
	- the protector should not open unexpectedly and unintentionally between or within its different components;		pass	pass
	- there should not be any unreasonable restriction of movement at any joint;		pass	pass
	- putting on and removing other PPE items should be possible without any difficulty.		pass	pass

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References	Tests	Measuring unit	Requirements	Results
Analogue method EN 13595-1:2002 6 (annex A) Prospect A.1*	Fit and ergonomics - Is the garment free of rough, sharp or hard components, or other features that may cause irritation or that would make riding hazardous? - is it possible to put on the garment and to operate the fasteners and adjusters without hindrance? - are all the protectors correctly positioned (or adjustable) so that they do not cause discomfort or hinder the necessary movements of the limbs?		yes yes yes	yes yes yes
-	Protector's positioning on the body Body protected area coverage		The area of the body declared to be protected is covered adequately by each protector	pass
Analogue method EN 14021:2003 4.5 (6.4)*	Tear strength of the fastening systems	-	All rigid attachments and straps, as well as fasteners and adjusters, shall be able to withstand a pulling force of 120 N without failure	pass
EN 13688:2013 +A1:2021 4.2*	Innocuousness		Materials shall not adversely affect the health or hygiene of the user, they shall not release substances generally know to be toxic, carcinogenic, mutagenic, allergenic, toxic to reproduction or otherwise harmful.	pass
4.2/c ISO 4045:2018 ISO 3071: 2020	pH - leather - other materials extracting solution: KCl	- -	> 3,5 and < 9,5	Material: 1 6,5

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References	Tests	Measuring unit	Requirements	Results
4.2 d ISO 14362-1:2017#* textile	Azo colorants content:	mg/kg	absent (< 30 mg/kg)	Material: 1 pass
EN 1621-1 :2012 5.2.2 (6.2) (EN ISO 11642:2012 o EN ISO 105-E01: 2013)*	Colour fastness to water - discharge a) acetate b) cotton c) polyammide d) polyestere e) polyacrilyc f) wool	Grey scale 5=good, 1=bad.	 ≥ 4 ≥ 4 ≥ 4 ≥ 4 ≥ 4 ≥ 4	Material: 1 4/5 4/5 4 4/5 5 4/5
-	Information note it shall specify that the body armor: - is intended for use other than road motorcycles (i.e. off-road, enduro, cross, downhill) - it was designed to be used as "stand-alone"	-	-	pass
EN 1621-2:2014	**Motorcyclists' back protectors**			
4.1*	General	-	Protectors shall be safe for use, comfortable to wear and fit for their purpose	pass
4.2 (EN 1621-1:2012)*	Innocuousness			innocuousness tests not carried out as the protector is designed to be inserted in pockets inside the garment: no direct contact with the user's skin.
EN ISO 13688:2013 +A1:2021 4.2*	Innocuousness		Materials shall not adversely affect the health or hygiene of the user, they shall not release substances generally known to be toxic, carcinogenic, mutagenic, allergenic, toxic to reproduction or otherwise harmful.	pass
4.3 (Table 1)	Type of protector	-	Full, central or lower back protector (FB, CB, LB)	FB

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References	Tests	Measuring unit	Requirements	Results
4.4 (5.1.6.1)	Impact force transmission 50J / bar impactor "kerbstone" - Standard conditioning (23°C/50% r.h.) - Single values: 1) 2) 3) 4) 5) - Mean: - Level: Visual check after impact	 kN kN - -	 lev.1 lev.2 ≤ 24 ≤ 12 ≤ 18 ≤ 9 1/2 no fragmentation of the sample and no sharp edges, cracks and loss of soft debris are permissible	 6,0 6,0 6,8 9,4 10,4 7,7 2 pass
4.4 (5.1.6.2)	Impact force transmission 50J / bar impactor "kerbstone" - Wet impact test conditioning: hydrolytic treatment 72h/+70°C/>96% r.h. + 24h/23°C - Single values: 1) 2) 3) 4) 5) - Mean: - Level: Visual check after impact Note: at the end of the hydrolytic treatment the protectors are hung in a water vapour proof bag, avoiding the direct contact with the bag itself.	 kN kN - -	 lev.1 lev.2 ≤ 24 ≤ 12 ≤ 18 ≤ 9 1/2 no fragmentation of the sample and no sharp edges, cracks and loss of soft debris are permissible	 6,0 5,5 5,2 10,4 10,2 7,5 2 pass

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References	Tests	Measuring unit	Requirements	Results
4.4 (5.1.6.3) (optional T+)	Impact force transmission 50J / bar impactor "kerbstone" - High temperature Conditioning: 24h/+40°C - Single values: 1) 2) 3) 4) 5) - Mean: - Level: Visual check after impact	 kN kN - -	 lev.1 lev.2 ≤ 24 ≤ 12 ≤ 18 ≤ 9 1/2 no fragmentation of the sample and no sharp edges, cracks and loss of soft debris are permissible	 6,7 6,5 6,7 10,0 10,1 8,0 2 pass
me-int 040-01 (analogue method 4.4 - 5.1.6.4)* (Winter sport /Multisport) (optional)	Impact force transmission 50J / bar impactor "kerbstone" Conditioning: 24h/–20°C - Single values: 1) 2) 3) 4) 5) - Mean: - Level: Visual check after impact	 kN kN - -	 lev.1 lev.2 ≤ 24 ≤ 12 ≤ 18 ≤ 9 1/2 no fragmentation of the sample and no sharp edges, cracks and loss of soft debris are permissible	 6,7 5,2 5,9 9,7 9,8 7,5 2 pass
-	Overall protective level	-	1/2	2

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References	Tests	Measuring unit	Requirements	Results
4.5 (5.2.1)	Dangerous elements Correspondence between the protective area marked on the back/lumbar protector and the extent of the body part which must be protected	- -	No sharp edges or other features that may cause any inconvenience to the user Pass	pass pass
4.5 (5.2.2)	Ergonomic features - Male tester with WS:	- cm	Pass -	pass 52
4.6*	Sizing Waist-to-shoulder length (W-S) (range min-max) Declared: Verified:	 cm cm	 - -	 48-52 48-52
-	Protector's positioning on the body Body protected area coverage		The area of the body declared to be protected is covered adequately by the protector	pass
EN 1621-3: 2018	**Motorcyclists' chest protectors**			
4.1*	General	-	Motorcyclists' chest protectors shall meet an overall requirement that they are safe to use, comfortable to wear and fit for their purpose. Chest protectors shall be provided with means of restraint and/or adjustments capable to ensure that the protector is maintained in position during use	pass
4.2 (EN 1621-1:2012)*	Innocuousness			innocuousness tests not carried out as the protector is designed to be inserted in pockets inside the garment: no direct contact with the user's skin.

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References	Tests	Measuring unit	Requirements	Results
EN ISO 13688:2013 +A1:2021 4.2*	Innocuousness		Materials shall not adversely affect the health or hygiene of the user, they shall not release substances generally know to be toxic, carcinogenic, mutagenic, allergenic, toxic to reproduction or otherwise harmful.	pass
4.3	Minimum dimensions of zones of protection			
4.3.1 Table 1*	General - Type of protector: - Declared dimension: - Checked/verified dimension:	 - 	 full/divided type A/B type A/B	 full type B type B
4.3.1*	Full chest protector (C)	-	The protective area of full chest protectors shall be of a sufficient size to fit the template provided in fig.1a	pass
4.3.2	Levels of protection: - Level declared: - Level verified:	 - -	 1/2 1/2	 1 1

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References	Tests	Measuring unit	Requirements	Results
4.4 (6.3)	Impact attenuation (applicable to level 1 and level 2 protectors)			
6.5.1	Impact attenuation 50J / bar impactor kerbstone - Standard conditioning (23°C/50% r.h.) - Single values: 1) 2) 3) 4) 5) 6) 7) 8) - Mean: Visual check after impact	 kN kN -	 ≤ 24 ≤ 18 no fragmentation of the sample and no sharp edges, cracks and loss of soft debris are permissible	 18,9 12,0 11,9 10,7 13,7 10,5 11,2 12,2 12,6 pass
6.5.2	Impact attenuation 50J / bar impactor kerbstone - Wet impact test after hydrolytic treatment 72h/+70°C />96% r.h. + 24h/23°C - Single values: 1) 2) 3) 4) - Mean: Visual check after impact Note: at the end of the hydrolytic treatment the protectors are hung in a water vapor proof bag, avoiding the direct contact with the bag.	 kN kN -	 ≤ 24 ≤ 18 no fragmentation of the sample and no sharp edges, cracks and loss of soft debris are permissible	 17,2 12,2 17,6 16,1 15,8 pass

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References	Tests	Measuring unit	Requirements	Results
6.5.3 (optional T+)	Impact attenuation 50J / bar impactor kerbstone - High temperature Conditioning: 24h/+40°C - Single values: 1) 2) 3) 4) - Mean: Visual check after impact	 kN kN -	 ≤ 24 ≤ 18 no fragmentation of the sample and no sharp edges, cracks and loss of soft debris are permissible	 18,9 13,3 11,4 16,8 15,1 pass
me-int 040-01 (analogue method 4.4 – 6.5.4)* (Winter sport /Multisport) (optional)	Impact attenuation 50J / bar impactor kerbstone Conditioning: 24h/–20°C - Single values: 1) 2) 3) 4) - Mean: Visual check after impact	 kN kN -	 ≤ 24 ≤ 18 no fragmentation of the sample and no sharp edges, cracks and loss of soft debris are permissible	 12,7 9,2 9,8 11,8 10,9 pass
4.6 (5.7)	Ergonomics	-	Pass	pass
-	Protector's positioning on the body Body protected area coverage		The area of the body declared to be protected is covered adequately by the protector	pass
	Innocuousness, additional chemical tests			
EN ISO 14389:2014#*	Phthalates	mg/kg	< 1000 mg/kg (Sum of phthalates listed in REACH Annex XVII Entry 51)	Black TPE pass

- End of the Test Report -

Marco Meyer
Managing Director

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