



INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a.s.
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EVALUATION REPORT

Ref. No.: 723302556/2024

Customer: **VM Footwear s.r.o.**
Veselská 1935
696 62 Strážnice
Czech Republic

Product: **Firefighting Footwear according to ČSN EN 15090:2012 Type 2, F2A, HI3, CI, WR, AN, SRC, HRO, designed for Firefighters and Firefighting Squads, types:**
6970-S3 HRO SRC WR CI AN F2A HI3
6970-S3BOA HRO SRC WR CI AN F2A HI3

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Representative of Notified Body No. 1023

Introduction

This Evaluation Report was issued on the basis of Application No. 723302556 for the assessment of conformity of personal protective equipment (PPE) with the basic requirements of Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC (hereinafter Regulation (EU) 2016/425).

This assessment should prove the fulfilment of EU legislation requirements for the purpose of the access of the assessed products to the EU market.

It is change procedure to the issued EU-type certificate No. 21 0376 T/NB (issued in Institut pro testování a certifikaci, a.s., Zlín, Czech Republic on 2021-09-06, expiration date 2026-09-05). The reason is the addition of new type so that a new type series was created. Test results related with the change were applied within this process. Next appropriate test results were taken from Evaluation report ref. No. 723302180/2021, issued in Institut pro testování a certifikaci, a.s., Zlín, dated 2021-09-06. Other changes were not carried out (see document published in Table VIII as D13).

1. Identification of assessed personal protective equipment

A detailed description of the design and structure, including the drawing documentation and specifications of materials used, is given in the file of technical documentation of the product called "Firefighting Footwear according to ČSN EN 15090:2012 Type 2, F2A, HI3, CI, WR, AN, SRC, HRO, designed for Firefighters and Firefighting Squads, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3". The address of the place of production is given in the technical documentation under the code A1002. The submitted documentation covers the following models and alternatives of the product:

Firefighting Footwear according to ČSN EN 15090:2012 Type 2, F2A, HI3, CI, WR, AN, SRC, HRO, designed for Firefighters and Firefighting Squads, types:
6970-S3 HRO SRC WR CI AN F2A HI3
6970-S3BOA HRO SRC WR CI AN F2A HI3

Design and used material:

This is half-knee footwear designed with double type of closure. The basic closure design is a combination of a zipper and lacing. The second closure method, called BOA, consists of a strong plastic string and a round adjustment wheel. The boots are equipped with toe and ankle protectors, a plastic toe cap, an anti-perforation insert and a lining with membrane Free-tex. The footwear has identical properties essential for assessment from the point of upper and sole materials, both types form a type series. Basic material composition is presented in Table I. Drawing of the assessed PPE see below.



6970-S3



6970-S3BOA



Table 1: Material composition of footwear

Part of footwear	Material composition	
	type 6970-S3	type 6970-S3BOA
Upper	Smooth hydrophobic cowhide leather	
Toe cap	Composite toe cap 1701G	
Cover of toe, heel	Rubber/TPU	
Collar	Smooth patterned flexible leather	
Zipper	Plastic YKK	-
Closure	-	BOA - string with round wheel
Vamp and quarter lining	Textile with membrane Free-tex (new)	
Collar lining	Knitted textile Mesh	
Tongue lining	Knitted textile Mesh and textile with membrane Free-tex (new)	
Tongue	Smooth hydrophobic cowhide leather and smooth patterned flexible leather	
Insole	Cut resistant textile Wellmax and textile with membrane Free-tex (new)	
Insock	HI-POLY (knitwear on a shaped stitched by antistatic thread)	
Outsole	Cleated outsole KA-470 PU/RUBBER Michelin	

Intended use of the personal protective equipment:

The product is ranked among the personal protective equipment the fundamental purpose of which is protection of feet from injuries that may be sustained during accidents in the working spheres for which the boots are intended. The boots are made especially as fireman's boots, according to risks connected with the fire-fighting.

It is equipped by stiffening toe cap to protect foot toes. It affords protection against 200 J impact and against compression at the compression force of 15 kN. Footwear meets the requirements of EN 15090 with additional requirements for water and cold resistance and for ankle protection. In term on insulation against heat there is met the requirement for HI₃, in term on electrostatic properties it is antistatic footwear. According to the standard above it is footwear for firefighters type 2, marking F2A. Checked product meets the requirement of EN ISO 20345 on slip resistance SRC and on puncture resistance.

Classification of protective personal equipment:

Product Firefighting Footwear according to ČSN EN 15090:2012 Type 2, F2A, HI₃, CI, WR, AN, SRC, HRO, designed for Firefighters and Firefighting Squads, types: 6970-S3 HRO SRC WR CI AN F2A HI₃, 6970-S3BOA HRO SRC WR CI AN F2A HI₃ was classified as PPE Category III by the manufacturer.

2. Technical documentation

Technical documentation was submitted in the Czech language to assess the conformity Firefighting Footwear according to ČSN EN 15090:2012 Type 2, F2A, HI3, CI, WR, AN, SRC, HRO, designed for Firefighters and Firefighting Squads, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3 on 2023-10-25, 2024-01-29. The file of technical documentation contains the items in according to Annex III of the Regulation (EU) 2016/425 of the European Parliament and of the Council.

3. Assessment of conformity with basic requirements according to the Regulation (EU) 2016/425 of the European Parliament and of the Council

3.1 Basic requirements for the product and its specification in technical specifications

Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC setting out technical requirements for personal protective equipment.

Tables No. II to IV state the analysis of applicability of basic requirements according to Annex II of Regulation (EU) 2016/425 in the right column, supplemented in case of applicable requirements by articles of harmonised standards stated in their harmonisation annex ZA or other technical specifications used for proving the conformity with respective partial requirement. "A" letter in the third column of the tables means that these requirements has been used for the given PPE, the "N/A" abbreviation (not applicable) means the requirement does not apply to the given PPE because it is irrelevant for the given intended use and/or the material used.

Column 4 of Tables No. II – IV states the articles of harmonised standards which are linked, by means of cross links in the harmonisation annex ZA, to the respective basic requirement of Regulation (EU) 2016/425. Meeting these articles of the harmonised standard proves the conformity of the product with the given basic requirement stated in the right column.

The fifth column of Tables No. II – IV states the articles of non-harmonised technical specifications by which the manufacturer proves the conformity with the respective basic requirement which is not included in harmonisation. These can be articles of non-harmonised national or international standards as well as articles of harmonised standards which are not connected with the given requirement by a link in the harmonisation annex ZA. In extraordinary cases, the respective basic requirement can be set quite specifically by the Regulation so the conformity can be assessed directly with this article of the Regulation without any necessity to specify the required by means of a harmonised standard or other technical specification.

In case of applicable requirements, the last column of Tables No. II – IV states the assessment of the given requirement, whether PPE passes or does not pass. "P" letter means PPE passes the given requirement, "N/P" means it does not pass it.

Table II: **Overview of basic requirements and technical specifications used in the PPE design. General requirements applicable to all PPE**

Requirement number in Annex II	Requirement description	Application A – N/A	Article of the harmonised standard specifying the requirement (according to Annex ZA)	Other technical specification or the manner of proving the compliance with the requirement	Assessment P – N/P
1.1	Design principles	A		See requirement 1.1.1, 1.1.2 below	P
1.1.1	Ergonomics	A	EN ISO 20345 Art. 5.3.4		P



Requirement number in Annex II	Requirement description	Application A – N/A	Article of the harmonised standard specifying the requirement (according to Annex ZA)	Other technical specification or the manner of proving the compliance with the requirement	Assessment P – N/P
1.1.2	Levels and classes of protection	A		See requirement 1.1.2.1. a 1.1.2.2 below	P
1.1.2.1	Optimum level of protection	A	EN ISO 20345 Art. 5.3.4		P
1.1.2.2	Classes of protection appropriate to different levels of risks	A	EN 15090 Art. 4.3	EN ISO 20345 Art. 6.1	P
1.2	Innocuousness of PPE	A		See requirement 1.2.1, 1.2.1.1., 1.2.1.2 and 1.2.1.3 below	P
1.2.1	Absence of risks and other inherent nuisance factors	A	EN ISO 20345 Art. 5.3.2.2, 6.2.1.2, 6.2.1.3, 6.2.5, 6.3 EN 15090 Art. 6.8.1		P
1.2.1.1	Suitable constituent materials	A	EN ISO 20345 Art. 5.4.7, 5.4.9, 5.6.2, 5.6.3		P
1.2.1.2	Satisfactory surface condition of all PPE parts in contact with the user	A	EN ISO 20345 Art. 5.3.4		P
1.2.1.3	Maximum permissible user impediment	A	EN ISO 20345 Art. 5.3.4		P
1.3	Comfort and effectiveness	A		See requirement 1.3.1, 1.3.2 below	P
1.3.1	Adaptation of PPE to user morphology	A		EN ISO 20345 Art. 5.3.4	P
1.3.2	Lightness and design strength	A	EN ISO 20345 Art. 5.3.1.2; 5.3.2.5.2, 5.4.3, 5.5.1; 5.5.2; 5.6.1; 5.7.4; 5.8.2; 5.8.3; 5.8.4, 5.8.6, 6.2.1.4, 6.4.1, 6.4.2 EN 15090 Art. 6.3.1, 6.8.2, 6.8.3, table 7		P
1.3.3	Compatibility of different classes or types of PPE designed for simultaneous use	N/A			
1.3.4	Protective clothing containing removable protectors	N/A			
1.4	Manufacturer's instructions and information	A	EN ISO 20345 Art. 8 EN 15090 Art. 9		P

Table III: Overview of basic requirements and technical specifications used in the PPE designing. Additional requirements common to several classes or types of PPE

Requirement number in Annex II	Requirement description	Application A – N/A	Article of the harmonised standard specifying the requirement (according to Annex ZA)	Other technical specification or the manner of proving the compliance with the requirement	Assessment P – N/P
2.1	PPE incorporating adjustment systems	N/A			
2.2	PPE enclosing the parts of the body to be protected	A	EN ISO 20345 Art. 5.4.6, 5.5.3		P
2.3	PPE for the face, eyes and respiratory system	N/A			
2.4	PPE subject to ageing	A		EN 12568 Art. 5.4, 7.4	P
2.5	PPE which may be caught up during use	N/A			
2.6	PPE for use in potentially explosive atmospheres	A	EN ISO 20345 Art. 6.2.2.2 EN 15090 Art. 6.6.3		P
2.7	PPE intended for rapid intervention or to be put on or removed rapidly	N/A			
2.8	PPE for intervention in very dangerous situations	N/A			
2.9	PPE incorporating components which can be adjusted or removed by the user	N/A			
2.10	PPE for connection to complementary equipment external to the PPE	N/A			
2.11	PPE incorporating a fluid circulation system	N/A			
2.12	PPE bearing one or more identification markings or indicators directly or indirectly relating to health and safety	A	EN ISO 20345 Art. 6.1, 7 EN 15090 Art. 8		P
2.13	PPE capable of signalling the user's presence visually	N/A			
2.14	'Multi-risk' PPE	A		EN 15090 Art. 6	P

Table IV: Overview of basic requirements and technical specifications used in the PPE designing. Additional requirements specific to particular risks

Requirement number in Annex II	Requirement description	Application A – N/A	Article of the harmonised standard specifying the requirement (according to Annex ZA)	Other technical specification or the manner of proving the compliance with the requirement	Assessment P – N/P
3.1	Protection against mechanical impact	A		See requirements 3.1.1, 3.1.2 below	P



Requirement number in Annex II	Requirement description	Application A – N/A	Article of the harmonised standard specifying the requirement (according to Annex ZA)	Other technical specification or the manner of proving the compliance with the requirement	Assessment P – N/P
3.1.1	Impact caused by falling or ejected objects and collision of parts of the body with an obstacle	A	EN ISO 20345 Art. 5.3.2.3, 6.2.4, 6.2.7		P
3.1.2	Falls	N/A		See requirement 3.1.2.1 below	P
3.1.2.1	Prevention of falls due to slipping	A	EN ISO 20345 Art. 5.3.5		P
3.1.2.2	Prevention of falls from a height	N/A			
3.1.3	Mechanical vibration	N/A			
3.2	Protection against static compression of part of the body	A	EN ISO 20345 Art. 5.3.2.4 EN 15090 Art. 6.4		P
3.3	Protection against mechanical injuries	A	EN ISO 20345 Art. 6.2.1.1, 6.2.1.5.2		P
3.4	Protection in liquids	N/A			
3.4.1	Prevention of drowning	N/A			
3.4.2	Buoyancy aids	N/A			
3.5	Protection against the harmful effects of noise	N/A			
3.6	Protection against heat and/or fire	A	EN ISO 20345 Art. 6.2.3.1		P
3.6.1	PPE constituent materials and other components	A	EN 15090 Art. 6.3.2, 6.3.3		P
3.6.2	Complete PPE ready for use	A	EN 15090 Art. 6.3.1, table 6		P
3.7	Protection against cold	N/A	EN ISO 20345 Art. 6.2.3.2		P
3.7.1	PPE constituent materials and other components	N/A			
3.7.2	Complete PPE ready for use	N/A			
3.8	Protection against electric shock	N/A			
3.8.1	Insulating equipment	N/A			
3.8.2	Conductive equipment	N/A			
3.9	Radiation protection	N/A			
3.9.1	Non-ionising radiation	N/A			
3.9.2	Ionising radiation	N/A			
3.9.2.1	Protection against external radioactive contamination	N/A			
3.9.2.2	Protection against external irradiation	N/A			
3.10	Protection against substances and mixtures which are hazardous to health and against harmful biological agents	N/A			

Requirement number in Annex II	Requirement description	Application A – N/A	Article of the harmonised standard specifying the requirement (according to Annex ZA)	Other technical specification or the manner of proving the compliance with the requirement	Assessment P – N/P
3.10.1	Respiratory protection	N/A			
3.10.2	Protection against cutaneous and ocular contact	N/A			
3.11	Diving equipment	N/A			

When designing the product, the manufacturer applied the following standards harmonised to Regulation (EU) 2016/425, see Table V:

Table V: Relevant harmonized standards

Technical standard	Name
ČSN EN 15090:2012 (EN 15090:2012)	Obuv pro hasiče (Footwear for Firefighters)
ČSN EN ISO 20345:2012 (EN ISO 20345:2011)	Osobní ochranné prostředky - Bezpečnostní obuv (Personal protective equipment - Safety footwear)

3.2 Indicators specifying basic requirements and test methods

Indicators specifying applicable basic requirements (marked with "A" in the third column of Tables from II to IV):

General essential requirements – innocuousness, design, ergonomic properties according to ČSN EN 15090 with reference to ČSN EN ISO 20345

- boot design and shape, ergonomic properties - Art. 5.2, 5.3
- requirements for the complete boots - Art. 5.3
- requirements for upper - Art. 5.4
- requirements for lining - Art. 5.5
- requirements for tongue - Art. 5.6
- requirements for insole and insock - Art. 5.7
- requirements for outsole - Art. 5.8
- hygienic properties - Art. 5.3.6

General requirements – design, ergonomic properties according to ČSN EN 15090

- requirements for the construction - Art. 4, 6.1
- requirements for the complete boots - Art. 6.2, 6.8
- thermo resistant requirements - Art. 6.3
- requirements for sole - Art. 6.7

Supplementary requirements for specific risks according to ČSN EN 15090

- antistatic properties – Art 6.6.3
- insulation against cold - reference to ČSN EN ISO 20345, Art. 6.2.3.2
- water resistance - reference to ČSN EN ISO 20345, Art. 6.2.5
- ankle protection - reference to ČSN EN ISO 20345, Art. 6.2.7

Marking, information supplied by the manufacturer:

- marking, classification - ČSN EN 15090, Art. 8, ČSN EN ISO 20345 Art. 7
- information to be supplied - ČSN EN 15090, Art. 9, ČSN EN ISO 20345 Art. 8

3.3 Test methods

The submitted samples of the product assessed, operating safety footwear, were tested employing test methods specified in Table VI:

Table VI: Test methods and standards used for testing

Test method	Used standard
Personal protective equipment - Test methods for footwear	ČSN EN ISO 20344 (EN ISO 20344)
- Test methods for whole footwear	- Art. 5 (5.1, 5.2, 5.3, 5.4, 5.5, 5.8, 5.10, 5.11, 5.12, 5.13, 5.14, 5.15, 5.17)
- Test methods for upper, lining and tongue	- Art. 6 (6.2, 6.6, 6.7, 6.8, 6.12, 6.13)
- Test methods for insole and insock	- Art. 7 (7.1, 7.2, 7.3)
- Test methods for outsole	- Art. 8 (8.1, 8.4, 8.6, 8.7)
Footwear for Firefighters	ČSN EN 15090 (EN 15090)
- Radiant heat	- Art. 7.2
- Flame resistance test	- Art. 7.3
- Zipper – Puller attachment strength	- Art. 7.5.1
- Zipper – Lateral strength	- Art. 7.5.2
- Cleat height in the waist area	- Art. 6.7.3, fig. 1
- Heel breast	- Art. 6.7.4, fig. 1
Foot and leg protectors - Requirements and test methods for toecaps and penetration resistant inserts	ČSN EN 12568 (EN 12568)
- Width of flange	- Art. 4.2.2.2
- Test methods for non-metal toecaps	- Art. 5.4
- Determination of flexing resistance of inserts	- Art. 7.2.2
- Test method for non-metal penetration resistant inserts	- Art. 7.4
Leather - Physical and mechanical tests - Determination of tear load	ČSN EN ISO 3377-2 (EN ISO 3377-2)
- Part 2: Double edge tear	
Rubber or plastic-coated fabrics - Determination of tear resistance -	ČSN EN ISO 4674-1 (EN ISO 4674-1)
- Part 1: Constant rate of tear methods	
Leather - Chemical tests - Determination of pH and difference figure	ČSN EN ISO 4045 (ISO 4045)
Leather - Chemical determination of chromium(VI) content in leather - Part 1: Colorimetric method	ČSN EN ISO 17075-1 (EN ISO 17075-1)
Rubber, vulcanized or thermoplastic - Determination of tear strength	ČSN ISO 34-1 (ISO 34-1)
- Part 1: Trouser, angle and crescent test pieces	
Rubber, vulcanized or thermoplastic – Determination of abrasion resistance using a rotating cylindrical drum device	ISO 4649 method A
Rubber, vulcanized or thermoplastic - Determination of the effect of liquids)	ČSN ISO 1817 (ISO 1817)
Protective clothing - Protection against heat and fire - Method of test: Evaluation of materials and material assemblies when exposed to a source of radiant heat	ČSN EN ISO 6942 (ISO 6942)
Protective clothing - Protection against heat and flame - Method of test for limited flame spread	ČSN EN ISO 15025 (EN ISO 15025)
Visual evaluation of marking, classification, information provided by the manufacturer	ČSN EN 15090 Art. 8, 9 ČSN EN ISO 20345 Art. 7, 8

3.4 Place and scope of sampling

Samples of the assessed product were delivered by the Customer on 2023-11-07 in compliance with instructions of the designated worker of the Notified Body NB 1023 at the quantity of 6 pairs of footwear. With regard to the fact that this is the EU type examination by a notified body, the Customer asking for assessing the conformity is responsible for selecting a sample (or prototype). The test examination does not include inspection activity focused on the conformity of properties of all products introduced to the market with the assessed (proto)type.

3.5 Place of performing the tests and assessment

Tests were performed in the following accredited testing laboratories: AZL No. 1004, Institut pro testování a certifikaci, a.s., Zlín, AZL No. 1040, VÚBP v.v.i., Praha, both Czech Republic; CNAS L0220 Intertek Testing Services Shenzhen Ltd., Guangdong, China, CNAS L0167 SGS-CSTC Standard Technical Services Co., Ltd., Guangzhou Branch Testing Center, Guangdong, China, CNAS L4144 PFI Fareast Testing and Technology Services Co., Ltd., Fujian, China. The documentation was examined and visual inspection and product type assessment were performed in Institut pro testování a certifikaci, a.s. Zlín, Czech Republic.

3.6 Results of tests and assessment

Results of the personal protective equipment evaluation are summarised in Table VII. Test methods stated in respective part of Table VI were used.

Table VII: Results of assessment of product Firefighting Footwear, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3

Properties essential for assessment	Art. of standard ¹⁾	Value required	Results obtained	Number of document ²⁾	Assessment
Classification of footwear	ČSN EN 15090 4.1	footwear shall be classified according to tab. 1 EN 15090	leather footwear class I	D1, D3	pass
Design type 6970-S3 type 6970-S3BOA	ČSN EN 15090 4.2	footwear shall conform to one of the designs (from B to E) given in figure 3 EN ISO 20345	design C design C (half-knee boots)	D1, D3	pass
Type	ČSN EN 15090 4.3	footwear shall conform to one of the type 1, 2 or 3	type 2	D3	pass
Height of upper type 6970-S3 size 39 size 42 size 45	5.2.2	min. 172 mm min. 178 mm min. 192 mm	230 mm 235 mm 248 mm	D3	pass
type 6970-S3BOA size 39 size 42 size 45	5.2.2	min. 172 mm min. 178 mm min. 192 mm	225 mm 240 mm 255 mm		
Seat region	5.2.2	shall be closed (for design B, C, D, E)	closed	D3	pass

Table VII: Results of assessment of product Firefighting Footwear, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3

Properties essential for assessment	Art. of standard ¹⁾	Value required	Results obtained	Number of document ²⁾	Assessment
Seat region – holes type 6970-S3 type 6970-S3BOA	5.2.3	for design B, C, D, E without holes below the height of design A	without holes without holes below the height of design A	D4 D3	pass
Specific ergonomic features type 6970-S3 type 6970-S3BOA	5.3.4	all the answers in the questionnaire shall be positive	all the answers are positive positive	D4 D3	pass
Water resistance - area of water penetration type 6970-S3 type 6970-S3BOA	6.2.5	max. 3 cm ²	0 cm ² 0 cm ²	D4 D6	pass
Whole footwear					
Construction - footwear with insole	5.3.1.1	insole (if it is used) cannot be removed without damaging the footwear	insole cannot be removed without damaging the footwear	D4	pass
Upper/outsole bond strength	5.3.1.2	min. 4.0 N/mm	5.65 N/mm	D4	pass
Insulation against heat - temperature increase on the insole after 10 minutes 250°C temperature action	CSN EN 15090 6.3.1	max. 42°C	26.0°C	D4	pass
Insulation against heat footwear degradation after 40 min. of 250°C temperature action - upper changes - insole deformation - cracks in the outsole length width - upper/outsole separation length width - change of cleat height	CSN EN 15090 6.3.1	max. damaging according to Annex B max. 10 mm max. 3 mm max. 15 mm max. 5 mm under 1.5 mm	without damage without damage 0 mm 0 mm 0 mm 0 mm 0 mm	D4	pass
Classification according to footwear degradation	CSN EN 15090 6.3.1	HI ₁ , HI ₂ or HI ₃	HI ₃	D4	pass

Table VII: Results of assessment of product Firefighting Footwear, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3

Properties essential for assessment	Art. of standard ¹⁾	Value required	Results obtained	Number of document ²⁾	Assessment
Slip resistance - friction coefficient - test condition A - test condition B - test condition C - test condition D	5.3.5	min. 0.28 min. 0.32 min. 0.13 min. 0.18	0.47 0.47 0.21 0.19	D4	pass
Slip resistance – symbol	5.3.5	SRA, SRB or SRC	SRC	D4	pass
Innocuousness	5.3.6	Information about footwear innocuousness shall be supplied. These information shall be checked	Information has been supplied. It was checked	D1, D3, D12	pass
Energy absorption of seat region	6.2.4	min 20 J	26.3 J	D4	pass
Flame resistance - after-flame time - outsole - innersole	CSN EN 15090 6.3.3	max. 2 s	0 s 0 s	D10	pass
Flame resistance – after-glow time - outsole - innersole	CSN EN 15090 6.3.3	max. 2 s	0 s 1 s	D10	pass
Flame resistance – performance after test - outsole - innersole	CSN EN 15090 6.3.3	permitted damage according to Annex B.2.3	permitted permitted damage according to Annex B.2.3	D10	pass
Penetration resistance – footwear with non-metallic insert covered by insock - sole behaviour	6.2.1.1.1	by 1100 N force without thorn penetration	without thorn penetration	D4	pass
Construction of the penetration-resistant insert	6.2.1.2	it cannot be removed without damaging the footwear	it cannot be removed without the footwear damaging	D4	pass

Table VII: Results of assessment of product Firefighting Footwear, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3

Properties essential for assessment	Art. of standard ¹⁾	Value required	Results obtained	Number of document ²⁾	Assessment
Dimensions of the penetration-resistant insert - dimension (X) - dimension (Y) - number of holes - diameter of holes - location of holes	6.2.1.3	max. 6.5 mm max. 17 mm max. 3 max. 3 mm outside of the shaded area (1) - see picture 4	0 mm 0 mm 0 - -	D4	pass
Flex resistance of penetration-resistant insert - appearance after test	6.2.1.4	without cracking	without cracking	D8	pass
Non-metal penetration resistant inserts	6.2.1.5.2	shall comply with the requirements of EN 12568:2010, Art. 6.4	comply	D4	pass
Penetration resistance Stability against ageing and environmental influence, effect of - high temperature - low temperature - acid - alkali - fuel oil	6.2.1.5.2	min. 1100 N without penetration	1100 N 1100 N 1100 N 1100 N 1100 N without penetration	D8	pass
Complete footwear – toe protection					
Toe protection General	5.3.2.1	protective toe cap cannot be removed without damaging of the footwear	the toe cap cannot be removed without footwear damaging	D4	pass
Toe protection General	5.3.2.1	the protective toe cap must be covered by a lining	the toe cap is covered by lining	D4	pass
Toe protection – covering of the rear edge of the toecap - under the toe cap - in the opposite direction - thickness	5.3.2.1	min. 5 mm min. 10 mm min. 1 mm	8.0 mm 15.0 mm 1.48 mm	D4	pass
Toe protection - width of flange	4.2.2.2 ČSN EN 12568	max. 10 mm	7.3 mm	D4	pass

Table VII: Results of assessment of product Firefighting Footwear, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3

Properties essential for assessment	Art. of standard ¹⁾	Value required	Results obtained	Number of document ²⁾	Assessment
Internal length of toecap size 39 size 43 size 45	5.3.2.2	min. 38 mm min. 40 mm min. 42 mm	40.0 mm 42.0 mm 43.0 mm	D4	pass
Impact resistance (impact energy 200 J) size 42	5.3.2.3	min. 14.0 mm	22.4 mm	D4	pass
Impact resistance (impact energy 200 J)	5.3.2.3	without cracks through the material	without cracks through the material	D4	pass
Compression resistance (compression force 15 kN) - size 42	5.3.2.4	min. 14.0 mm	24.6 mm	D4	pass
Behaviour of toecaps Non-metallic toecaps	5.3.2.5.2	shall comply with the requirements of EN 12568, Art. 4.2, 4.4	comply the requirements	D4	pass
Impact resistance of non-metallic toecaps size 39 – clearance after ageing and impact, effect of - high temperature - low temperature - acid - alkali - fuel oil	4.4 ČSN EN 12568	min. 20.0 mm	23.0 mm 23.0 mm 23.0 mm 23.5 mm 23.0 mm	D9	pass
Impact resistance of non-metallic toecaps size 39 – performance after ageing and impact, effect of - high temperature - low temperature - acid - alkali - fuel oil	4.4 ČSN EN 12568	no cracks no cracks no cracks no cracks no cracks through the material	no cracks no cracks no cracks no cracks no cracks through the material	D9	pass
Complete footwear – electric properties, resistance to inimical environment, accessories					
Electrical properties Antistatic footwear - dry atmosphere - wet atmosphere	ČSN EN 15090 6.6.3	1x10 ⁵ to 1x10 ⁹ Ω	9.53x10 ⁸ Ω 1.19x10 ⁸ Ω	D4	pass

Table VII: Results of assessment of product Firefighting Footwear, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3

Properties essential for assessment	Art. of standard ¹⁾	Value required	Results obtained	Number of document ²⁾	Assessment
Cold insulation of sole complex (symbol CI) - temperature decrease on the insole	6.2.3.2	max. 10°C	3.5 °C	D4	pass
Cold insulation of sole complex (symbol CI) - insulation building	6.2.3.2	it cannot be removed without damaging the footwear	it cannot be removed without damaging the footwear	D4	pass
Zippers - zipper construction	ČSN EN 15090 6.8.1	they shall have an interlocking mechanism	they have an interlocking mechanism	D4	pass
Zipper (slide fastener) puller attachment strength	ČSN EN 15090 6.8.2	min. 250 N	389 N	D4	pass
Zipper (slide fastener) lateral strength	ČSN EN 15090 6.8.3	min. 500 N	532 N	D4	pass
Ankle protection – impact performance - average value - a highest measured value - appearance after test	6.2.7	max. 10 kN max. 15 kN without damage	5.99 kN 6.08 kN without damage	D4	pass
Upper – general					
Area with fulfilled upper requirements				D3	pass
type 6970-S3 - size 39 - size 42 - size 45	5.4.1	min. 119 mm min. 123 mm min. 131 mm	180 mm 189 mm 194 mm		
type 6970-S3BOA - size 39 - size 42 - size 45	5.4.1	min. 119 mm min. 123 mm min. 131 mm	185 mm 190 mm 197 mm		
Construction - water resistant upper	6.3	non-functional and decorative stitching and perforations shall not be used or water resistant requirements (WR) shall be met	non-functional and decorative stitching and perforations are not used, water resistant requirements (WR) are met	D3	pass

Properties essential for assessment	Art. of standard ¹⁾	Value required	Results obtained	Number of document ²⁾	Assessment
Radiant heat – increase of temperature - upper (sandwich from shin part) - upper (tongue + closing mechanism)	CSN EN 15090 6.3.2	max. 24 °C	5.10 °C 1.95 °C	D7	pass
Radiant heat – performance after test - upper (sandwich from shin part) - upper (tongue) - closing mechanism	CSN EN 15090 6.3.2	no visible damage according to Annex B	no visible damage no visible damage functional	D7	pass
Flame resistance – after-flame time type 6970-S3 - hydrophobic leather - flexible leather - plastic toe cover - plastic heel cover - upper sewing - plastic logo - closing mechanism type 6970-S3BOA - black vamp leather - red quarter leather - black heel upper - red collar upper - upper sewing - red eyelets - BOA system	CSN EN 15090 6.3.3	max. 2 s	0 s 0 s 0 s 0 s 0 s 0 s 0 s 0 s 0 s 0 s 0 s 0 s 0 s	D4 D10	pass
Flame resistance – after-glow time type 6970-S3 - hydrophobic leather - flexible leather - plastic toe cover - plastic heel cover - upper sewing - plastic logo - closing mechanism	CSN EN 15090 6.3.3	max. 2 s	0 s 0 s 0 s 0 s 0 s 0 s 0 s	D4	pass

Table VII: Results of assessment of product Firefighting Footwear, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3

Properties essential for assessment	Art. of standard ¹⁾	Value required	Results obtained	Number of document ²⁾	Assessment
type 6970-S3BOA - black vamp leather - red quarter leather - black heel upper - red collar upper - upper sewing - red eyelets - BOA system			0 s 0 s 0 s 0 s 0 s 0 s 0 s	D10	pass
Flame resistance – appearance after test	ČSN EN 15090 6.3.3	permitted damage according to Annex B.2.3			pass
type 6970-S3 - hydrophobic leather - flexible leather - plastic toe cover - plastic heel cover - upper sewing - plastic logo - closing mechanism			permitted permitted permitted permitted permitted permitted damage published in Annex B.2.3	D4	
type 6970-S3BOA - black vamp leather - red quarter leather - black heel upper - red collar upper - upper sewing - red eyelets - BOA system			permitted permitted permitted permitted permitted permitted damage published in Annex B.2.3	D10	
Upper - Smooth hydrophobic cowhide leather					
Tear strength	5.4.3	min. 120 N	198 N	D4	pass
Water vapour permeability	5.4.6	min. 0.8 mg/(cm ² .h)	2.85 mg/(cm ² .h)	D4	pass
Coefficient of water vapour permeability	5.4.6	min. 15.0 mg/cm ²	37.0 mg/cm ²	D4	pass
pH value	5.4.7	min. 3.2	3.28	D4	pass
Difference figure	5.4.7	max. 0.7	0.63	D4	pass
Chromium VI content	5.4.9	max. 3.0 mg/kg	less than 3.0 mg/kg	D4	pass
Water penetration - mass increase	6.3.1	max. 0.2 g	0.01 g	D4	pass
Water desorption	6.3.1	max. 30 %	1.90 %	D4	pass



Table VII: Results of assessment of product Firefighting Footwear, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3

Properties essential for assessment	Art. of standard ¹⁾	Value required	Results obtained	Number of document ²⁾	Assessment
Upper - Cover of toe					
Tear strength	5.4.3	min. 60 N	109 N	D4	pass
Collar – Smooth flexible cowhide leather					
Tear strength	5.5.1	min. 30 N	direction A: 150 N direction B: 147 N	D4	pass
Abrasion resistance - 51200 cycles when dry - 25600 cycles when wet	5.5.2	without holes without holes	without holes without holes	D4	pass
pH value	5.4.7	min. 3.2	4.69	D4	pass
Chromium VI content	5.4.9	max. 3.0 mg/kg	less than 3.0 mg/kg	D4	pass
Vamp and quarter lining - Textile with membrane Free-tex (new)					
Tear strength	5.5.1	min. 15 N	direction A: 38.3 N direction B: 27.5 N	D5	pass
Abrasion resistance - 51200 cycles when dry - 25600 cycles when wet	5.5.2	without holes without holes	without holes without holes	D5	pass
Water vapour permeability	5.5.3	min. 2.0 mg/(cm ² .h)	21.3 mg/(cm ² .h)	D11	pass
Coefficient of water vapour permeability	5.5.3	min. 20.0 mg/cm ²	171 mg/cm ²	D11	pass
Collar and tongue lining - Textile knitwear Mesh					
Tear strength	5.5.1	min. 15 N	34.9 N	D4	pass
Abrasion resistance - 51200 cycles when dry - 25600 cycles when wet	5.5.2	without holes without holes	without holes without holes	D4	pass
Water vapour permeability	5.5.3	min. 2.0 mg/(cm ² .h)	54.0 mg/(cm ² .h)	D4	pass
Coefficient of water vapour permeability	5.5.3	min. 20.0 mg/cm ²	432 mg/cm ²	D4	pass
Tongue – Smooth hydrophobic cowhide leather					
Tear strength	5.6.1	min. 36 N	198 N	D4	pass
pH value	5.6.2	min. 3.2	3.28	D4	pass
Difference figure if pH < 4	5.4.7	max. 0.7	0.63	D4	pass
Chromium VI content	5.6.3	max. 3.0 mg/kg	less than 3.0 mg/kg	D4	pass
Tongue – Smooth flexible cowhide leather					
Tear strength	5.6.1	min. 36 N	direction A: 150 N direction B: 147 N	D4	pass

Table VII: Results of assessment of product Firefighting Footwear, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3

Properties essential for assessment	Art. of standard ¹⁾	Value required	Results obtained	Number of document ²⁾	Assessment
pH value	5.6.2	min. 3.2	4.69	D4	pass
Chromium VI content	5.6.3	max. 3.0 mg/kg	less than 3.0 mg/kg	D4	pass
Insole – Antiperforation fabric Wellmax					
Thickness	5.7.1	min. 2.0 mm	4.5 mm	D4	pass
Water absorption	5.7.3	min. 70 mg/cm ²	83.1 mg/cm ²	D4	pass
Water desorption	5.7.3	min. 80 %	99.9 %	D4	pass
Abrasion resistance - appearance after 400 cycles	5.7.4.1	acceptable abrasion damage according to reference sample	acceptable abrasion damage	D4	pass
Insock – Soft black antistatic plastic covered by patterned textile knitwear (Hi-poly)					
Water absorption	5.7.3	min. 70 mg/cm ²	244 mg/cm ²	D4	pass
Water desorption	5.7.3	min. 80 %	99.9 %	D4	pass
Abrasion resistance - 25600 cycles when dry - 12800 cycles when wet	5.7.4.2	without holes without holes	without holes without holes	D4	pass
Outsole - Cleated outsole KA-470 PU/RUBBER Michelin					
Outsole classification - density	-	$\rho > 0.9 \text{ g/cm}^3$ $\rho \leq 0.9 \text{ g/cm}^3$	$\rho > 0.9 \text{ g/cm}^3$ -	D4	pass
Tear strength	5.8.2	min. 8 kN/m	10.3 kN/m	D4	pass
Abrasion resistance	5.8.3	max. 150 mm ³	105 mm ³	D4	pass
Flexing resistance - cut growth	5.8.4	max. 4 mm	0 mm	D4	pass
Interlayer bond strength	5.8.6	min. 4.0 N/mm	6.03 N/mm	D4	pass
Fuel resistance - volume growth	6.4.2	(-1) % to 12 %	6.4 %	D4	pass
Outsole thickness d ₁	5.8.1.1	min. 4 mm	4.4 mm	D4	pass
Cleated area	5.8.1.2	outsole shall be provided with a cleated surface, cleats shall be open to the side	the sole is provided with a pattern, cleat is open to the side	D4	pass
Cleated area - length in the front part - length in the back (heel) part	5.8.1.2	min. 0.45xL min. 0.25xL	0.51xL 0.32xL	D4	pass
Cleat design	ČSN EN 15090 6.7.1	any continuous linear transverse valleys shall not be across the sole	any continuous linear transverse valleys are across the sole	D4	pass

Table VII: Results of assessment of product Firefighting Footwear, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3

Properties essential for assessment	Art. of standard ¹⁾	Value required	Results obtained	Number of document ²⁾	Assessment
Cleat height - d ₂	ČSN EN 15090 6.7.2	min. 3 mm	4.1 mm	D4	pass
Cleat height in the waist area <u>d</u>	ČSN EN 15090 6.7.3	min. 1.5 mm	1.8 mm	D4	pass
Heel breast	ČSN EN 15090 6.7.4	the outsole shall have an inclined-breast heel	the outsole has an inclined-breast heel	D4	pass
Proportions of heel and waist - distance <u>a</u> - dimension <u>b</u> - ankle <u>α</u>	ČSN EN 15090 6.7.4	min. 35 mm min. 10 mm 90° to 120°	52 mm 10.9 mm 102°	D4	pass
Resistance to hot contact	6.4.1	outsoles shall not melt and shall not develop no cracks when bent around the mandrel	no melting no cracks	D4	pass
Marking and information					
Marking	7	data a) – f) in each halfpair of footwear	published	D3	pass
Marking	ČSN EN 15090 / 8	pictogram for footwear for firefighters	marked on the footwear	D3	pass
Information provided by the manufacturer	8 ČSN EN 15090 / 9	information in the official language(s) of the country of destination, general data a) – h), special appropriate details	published	D3	pass

Notes:

- 1) Appropriate articles of ČSN EN ISO 20345 standard
- 2) Documents placed in this column are the basis for assessment. Their identification see in Table VIII
- 3) The closing mechanism is functional

3.7 Assessment of product conformity with technical specifications and basic requirements

The assessed product – Firefighting Footwear according to ČSN EN 15090:2012 Type 2, F2A, HI3, CI, WR, AN, SRC, HRO, designed for Firefighters and Firefighting Squads, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3, specified in Item 1 hereof – complies with the requirements set by the following technical standard with regard to its design and submitted documentation:

ČSN EN 15090:2012 (EN 15090:2012)

ČSN EN ISO 20345:2012 (EN ISO 20345:2011)



Results of the evaluation of the personal protective equipment stated in Table VII hereof prove the conformity of all indicators specifying general basic requirements of Regulation (EU) 2016/425, additional basic requirements common for more types of PPE and additional basic requirements for special risks applicable to the evaluated type of product.

4. Conclusion

Notified Body NB 1023 performed EU Type-Examination of the personal protective equipment

Firefighting Footwear according to ČSN EN 15090:2012 Type 2, F2A, HI3, CI, WR, AN, SRC, HRO, designed for Firefighters and Firefighting Squads

Types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3

Technical specifications used by the manufacturer are in compliance with basic requirements of Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC.

The sample of the personal protective equipment was produced in compliance with the technical documentation of the manufacturer and can be fully safely used for its intended purpose.

The sample of the personal protective equipment meets all the provisions of the Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC.

The Notified Body No. 1023 decided to make a change of the EU Type Certificate No. 21 0376 T/NB and issue it as the EU Type Certificate No. 21 0376 T/NB/a.

5. List of documents used for the preparation of the Evaluation Report

List of documents used by Notified Body NB 1023 by EC type examination of product, is presented in the Table VIII. Numbers of documents in second column correspond with numbers of documents published in the Table VII. with assessment of product properties.

Table VIII: List of documents

Name of document	Marking
The Application from VM Footwear s.r.o., Strážnice, Czech Republic, dated 2023-10-25	-
Technical documentation of company VM Footwear s.r.o., Strážnice, Czech Republic for product Firefighting Footwear according to ČSN EN 15090:2012 Type 2, F2A, HI3, CI, WR, AN, SRC, HRO, designed for Firefighters and Firefighting Squads, types: 6970-S3 HRO SRC WR CI AN F2A HI3, 6970-S3BOA HRO SRC WR CI AN F2A HI3 (description of the product, technical specification, instructions for use and maintenance, picture of the product, description of the control and test facilities to be used in the manufacturer's plant) submitted on 2023-10-25, 2024-01-29	D1
Check list / a list of the basic safety requirements referred to Annex II of Regulation (EU) 2016/425, issued by VM Footwear s.r.o., Strážnice, Czech Republic on 2023-09-01	D2
Document on receipt of samples (ITC Sample Registration Book)	-
EU-type certificate No. 21 0376 T/NB, Notified body NB 1023, ITC Zlín	-
Assessment Record No. 723302556/A, Notified body NB 1023, ITC Zlín	D3
Evaluation report ref. No. 723302180/2021, Notified body NB 1023, ITC Zlín	D4
Accredited Laboratory Test Report Ref. No. 412603332-03, issued in testing accredited laboratory AZL 1004, ITC Zlín	D5

**Table VIII: List of documents**

Name of document	Marking
Accredited Laboratory Test Report Ref. No. 412603696-02, issued in testing accredited laboratory AZL 1004, ITC Zlín	D6
Test report No. 213/2017, issued in testing accredited laboratory AZL 1040, VÚBP Praha – ZL, Czech Republic	D7
Test Report No. GZHT90588393, issued in testing accredited laboratory CNAS No. L0220 Intertek Testing Services Shenzhen Ltd., Guangzhou Branch, China	D8
Test Report No. GZHT90756224, issued in testing accredited laboratory CNAS No. L0220 Intertek Testing Services Shenzhen Ltd., Guangzhou Branch, China	D9
Test Report No. SL92329333442201FW, issued in testing accredited laboratory CNAS No. L0167 SGS-CSTC Standard Technical Services Co., Ltd., Guangzhou Branch Testing Center, Guangdong, China	D10
Test Report No. P202079591V2-SV1, issued in testing accredited laboratory CNAS No. L4144 PFI Fareast Testing and Technology Services Co., Ltd., Fujian, China	D11
Declaration about innocuousness for human health of materials used on the product, issued in company VM Footwear s.r.o., Strážnice, Czech Republic, dated 2023-09-01	D12
Declaration about composition and design of the product, issued in company VM Footwear s.r.o., Strážnice, Czech Republic dated 2024-01-29	D13