FINAL REPORT

Ref. No.: 723301389/2017

Client:	**ZVG Zellstoff – Vertriebs – GmbH & Co KG** **Urbacher Str. 4-5** **538 42 Troisdorf** **Germany**
Product:	**Coated nonwoven work protective clothing** **Type: SECUTEX PRO A**
Elaborate by:	**Mgr. Klára Kysilková**
Conformity assessed by:	**Dipl. Ing. Elena Tomanová**
Issued on:	**2017-01-18**

RNDr. Radomír Čevelík
Representative of Notified Body No. 1023

Introduction

This Final Report was issued on the basis of Application No. 723301389 for the assessment of conformity of personal protective equipment (PPE) with the basic requirements of Czech Government Regulation No. 21/2003 Coll., as amended (hereinafter referred to as "GR 21") which transposes the provisions of Directive No. 89/686/EHS, as amended, to the Czech system of law.

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

Company **ZVG Zellstoff – Vertriebs – GmbH & Co KG** as OBL manufacturer made an application for the purpose of EC Type – Examination of protective clothing according to the Council Directive 89/686/EEC on the harmonization of the laws of Member States relating to personal protective equipment. This type of protective working clothing has been tested and certified under different trade mark for the company [redacted] within the scope of the purchasing order No. 723301315 (Certificate No. 16 0432 T/NB).

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 "Coated nonwoven work protective clothing, type: SECUTEX PRO A".

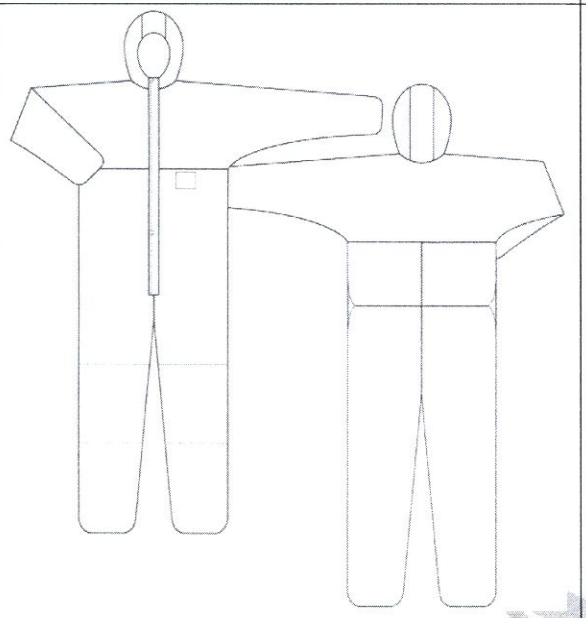
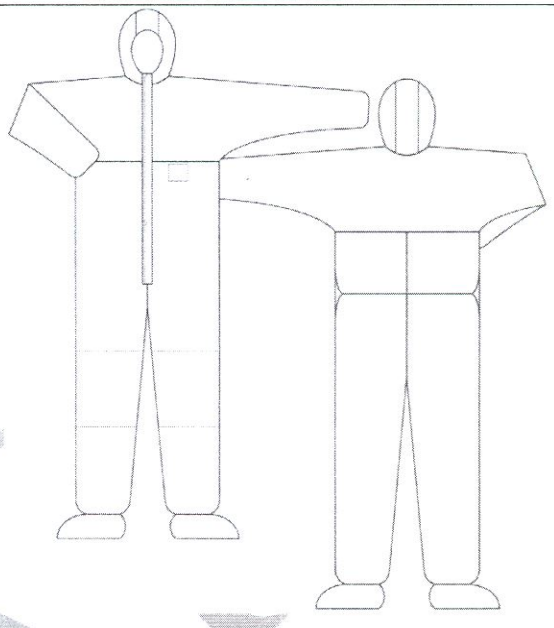
The submitted documentation covers the following models and alternatives of the product:

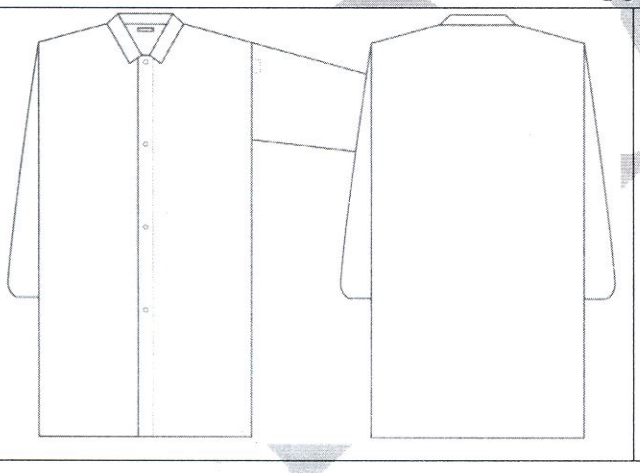
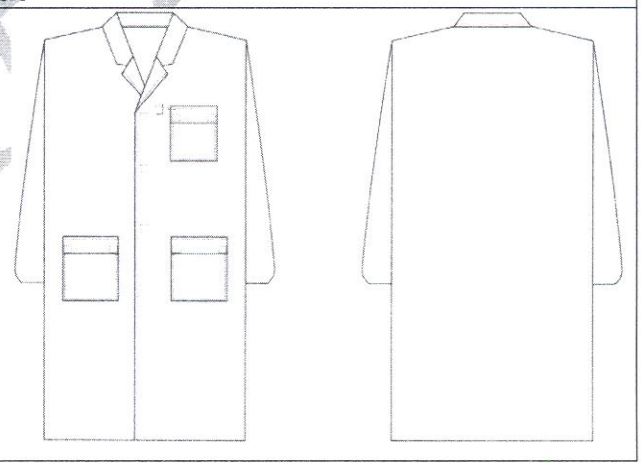
Coated nonwoven work protective clothing

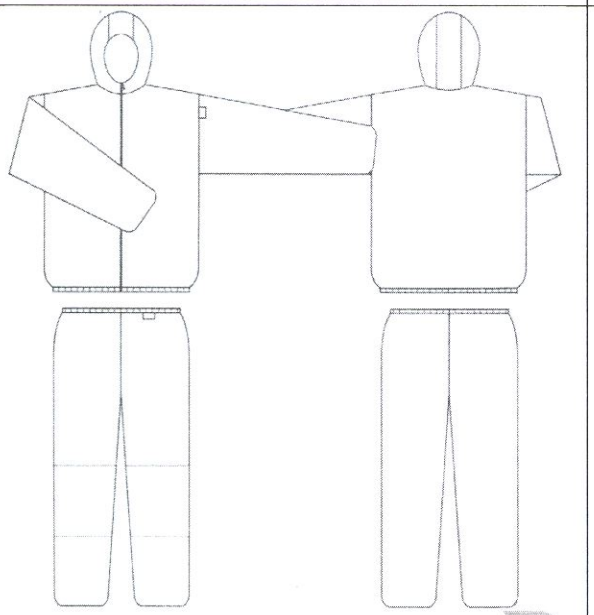
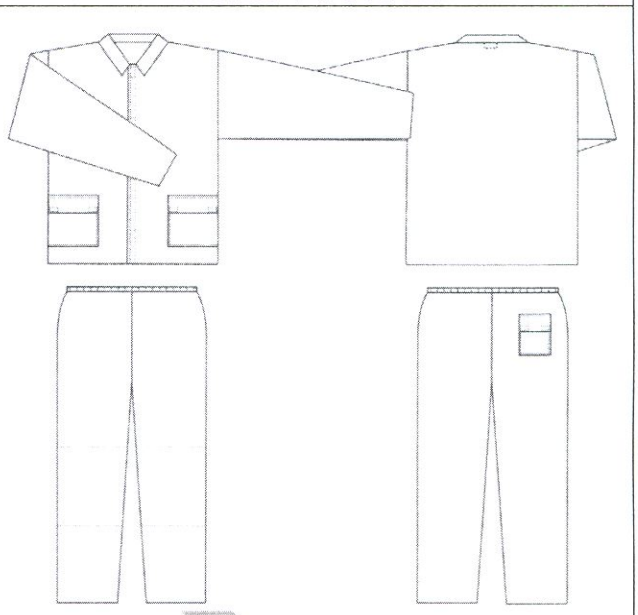
Type: SECUTEX PRO A

Basic material:	COMPOSITE 60 B white, antistatic, bonded Water vapour permeable polypropylene composite made of polypropylene non-woven and polyethylene foil, 60 g/m^2
Intended use:	Products (slip underwear) is intended as protective clothing for limited using (protective clothing against liquid chemicals, type 6) and to protection against potential exposure light spray, liquid aerosol or low pressure, low volume spray by dilute chemicals. The clothing also serves as electrostatic dissipative clothing, used as a part of a total earthed system, to avoid incendiary discharges.
Design:	overall, overall with shoe covers, coat and two-pieces garment (over blouse or jacket and trousers)
Classification:	**Coated nonwoven work protective clothing, type: SECUTEX PRO A** was classified as **PPE Category III** by the manufacturer.

Photos:

Overall	Overall with shoe covers
	

Coat	
	

Jacket + trousers	Blouse + trousers
	

2. Technical documentation

Technical documentation was submitted to assess the conformity of the **Coated nonwoven work protective clothing, type: SECUTEX PRO A** in 2016-12-01. The file of technical documentation contains the following items:

a) the drawing of the personal protective equipment,
b) the complete list of basic safety requirements applicable to this PPE,
c) the complete list of harmonised standards and/or other technical specifications used in designing this PPE to ensure conformity with basic requirements according to paragraph b)
d) technical conditions,
e) the description of materials used and their technical parameters,
f) the principles of the size range and its marking,
g) the description of inspection and testing equipment used in the manufacturer's plant for inspecting the conformity of PPE with technical specifications and for maintaining the quality level,
h) the proposal of information and instructions the manufacturer will provide when launching the product on the market, including:
   - information about use, storage, cleaning, maintenance, adjusting and disinfecting PPE,
   - the description of protective functions and achieved efficiency of the equipment,
   - the set levels or classes of protection corresponding to different levels of risk and limits for use following thereof,
   - the lifetime of PPE or its specific parts,

- the type of packing suitable for transport,
- the description of PPE marking and its meaning,
- the name, address and identification number of the Notified Body performing EC type examination,
- information about the manufacturer.

3. Conformity assessment with the basic requirements of GR 21 and Directive No. 89/686/EEC

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

Council Directive No. 89/686/EEC of 21st December 1989 on the approximation of the laws of member states relating to personal protective equipment, setting out technical requirements for personal protective equipment is transposed to the Czech legislation by Government Regulation No. 21/2003 Coll. (hereinafter referred to as the "GR 21"). The conformity with basic requirements of the Directive therefore means the conformity with basic requirements of the respective Government Regulation and vice versa.

Tables No. 1 through 3 state the analysis of applicability of basic requirements according to Annex II of Directive No. 89/686/EEC 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. 1 – 3 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 Directive No. 89/686/EEC. 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. 1 – 3 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 Directive so the conformity can be assessed directly with this article of the Directive 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. 1– 3 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 1: 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		EN ISO 13688, art. 4.3 EN 13034+A1, art. 5 EN 1149-5, art. 4.2.2	P
1.1.1	Ergonomics	A	EN 13034+A1, art. 5.2	EN ISO 13688, art. 4, Annex C	P
1.1.2	Levels and classes of protection	A		See requirement 1.1.2.1. and 1.1.2.2 below	P
1.1.2.1	Highest level of protection possible	A		See requirement 1.1.2.2 below	P
1.1.2.2	Classes of protection appropriate to different levels of risks	A		EN 13034+A1, art. 4.1	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 13688, art. 5.3 EN 13034+A1, art. 4.1		P
1.2.1.1	Suitable constituent materials	A	EN ISO 13688, art. 4.2 EN 13034+A1, art. 4.1		P
1.2.1.2	Satisfactory surface condition of all PPE parts in contact with th user	A	EN ISO 13688, art. 4.4		P
1.2.1.3	Maximum permissible user impediment	A	EN 13034+A1, art. 5.1, art. 5.2	See requirement 1.1.1 above	P
1.3	Comfort and efficiency	A		See requirement 1.3.1, 1.3.2, 1.3.3 below	P
1.3.1	Adaptation of PPE to user morphology	A		See requirement 1.1.1 above	P
1.3.2	Lightness and design strength	A	EN 13034+A1, art. 4.1, 4.2.2		P
1.3.3	Compatibility of different classes or types of PPE designed for simultaneous use	A	EN 13034+A1, art. 7	EN ISO 13688, art. 4.3.3	P
1.4	Information supplied by the manufacturer	A	EN ISO 13688, art. 8 EN 1149-5, art. 6	EN 13034+A1, art. 7	P

Table 2: 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			

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
2.2	PPE 'enclosing' the parts of the body to be protected	A		Direct assessment of conformity with art. 2.2 of annex II. directive PPE	P
2.3	PPE for the face, eyes and respiratory tracts	N/A			
2.4	PPE subject to ageing	A	EN 13034+A1, art. 5.1, 7	EN ISO 13688, art. 5	P
2.5	PPE which may be caught up during use	N/A			
2.6	PPE for use in explosive atmospheres	A	EN 1149-5, art. 4.2		P
2.7	PPE intended for emergency use or rapid installation and/or removal	N/A			
2.8	PPE for use 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 another, external complementary device	N/A			
2.11	PPE incorporating a fluid circulation system	N/A			
2.12	PPE bearing one or more identification or recognition marks directly or indirectly relating to health and safety	A	EN ISO 13688, art. 6, 7 EN 13034+A1, art. 6, 7 EN 1149-5, art. 5		P
2.13	PPE in the form of clothing capable of signalling the user's presence visually	N/A			
2.14	'Multi-risk' PPE	A		EN 13034+A1 EN 1149-5	P

Table 3: 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	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
3.1.1	Impact caused by falling or projecting objects and collision of parts of the body with an obstacle	N/A			
3.1.2	Falls	N/A			
3.1.2.1	Prevention of falls due to slipping	N/A			
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	N/A			
3.3	Protection against physical injury (abrasion, perforation, cuts, bites)	N/A			
3.4	Prevention of drowning	N/A			
3.4.1	Buoyancy aids	N/A			
3.5	Protection against the harmful effects of noise	N/A			
3.6	Protection against heat and/or fire	N/A			
3.6.1	PPE constituent materials and other components	N/A			
3.6.2	Complete PPE ready for use	N/A			
3.7	Protection against cold	N/A			
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			
3.9	Radiation protection	N/A			
3.9.1	Non-ionizing radiation	N/A			
3.9.2	Ionizing radiation	N/A			
3.9.2.1	Protection against external radioactive contamination	N/A			
3.9.2.2	Limited protection against external irradiation	N/A			
3.10	Protection against dangerous substances and infective agents	A		See requirement 3.10.2 below	P
3.10.1	Respiratory protection	N/A			
3.10.2	Protection against cutaneous and ocular contact	A	EN 13034+A1, art. 4.1, 4.2.1, 5.1, 5.2		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
3.11	Safety devices for diving equipment	N/A			

When designing the product, the manufacturer applied the following standards harmonised with Directive No. 89/686/EEC:

ČSN EN ISO 13688:2014 (EN ISO 13688:2013)
Protective clothing – General requirements

ČSN EN 13034+A1:2009 (EN 13034:2005+A1:2009)
Protective clothing against liquid chemicals - Performance requirements for chemical protective clothing offering limited protective performance against liquid chemicals (Type 6 and Type PB [6] equipment)

ČSN EN 1149-5:2008 (EN 1149-5:2008)
Protective clothing – Electrostatic properties – Part 5: Material performance and design requirements

3.2 Indicators specifying basic requirements and test methods

Indicators specifying applicable basic requirements (marked with "A" in the third column of Tables No. 1 through 3):

- **health safety and ergonomics requirements**
  - *innocuousness*
  - *construction*
  - *comfort*
  - *ergonomics*
- **requirements on protection against liquid chemicals**
  - *resistance to abrasion*
  - *tear resistance – trapezium method*
  - *tensile strength*
  - *puncture resistance*
  - *liquid repellence*
  - *resistance to penetration by liquid*
  - *seam strength*
  - *resistance to penetration by liquid in form of light spray (spray test – mist test)*
- **requirements on electrostatic properties**
  - *surface resistivity*
- **sizes**
- **marking**
- **information for use**

3.3 Test methods

Table No. 4: Overview of test methods used for evaluating the material

Properties – materials	Test method
Innocuousness *- pH of water extract* *- azo dyes*	 *EN ISO 3071* *EN 14362-1, 3*
Resistance to abrasion	*ČSN EN 530, method 2, 9 kPa*
Tear resistance – trapezium method	*EN ISO 9073-4*
Tensile strength	*ISO 13934-1*
Puncture resistance	*ČSN EN 863*
Liquid repellence	*ČSN EN ISO 6530* 30% H_2SO_4, 10% NaOH, p-xylene, 1-butanol
Resistance to penetration by liquid	*ČSN EN ISO 6530* 30% H_2SO_4, 10% NaOH, p-xylene, 1-butanol
Electrostatic properties *- surface resistivity*	*ČSN EN 1149-1*

Table No. 5: Overview of test methods used for evaluating the product

Properties – clothing	Test method
Seam strength	*ČSN ISO 13935-2*
Resistance to penetration by liquid in form of light spray (spray test – mist test) *(test was performed on overall, coat and set: blouse / jacket + trousers)*	*ČSN EN 13034+A1, art. 5.2* *ČSN EN ISO 17491-4* *Modified method A* *(modification of water, dyes)*
Design, sizes	*Visual assessment, wearing test*
Ergonomics, comfort	*Wearing test – evaluation according to EN ISO 13688, Annex C*
Marking, information for use	*Visual assessment*

3.4 Place and scope of sampling

Samples of the assessed product were delivered by the Customer on 2016-12-01 in compliance with instructions of the designated worker of the Notified Body NB 1023 at the quantity of 1 pieces of each assessed model of Coated nonwoven work protective clothing, type: SECUTEX PRO A. With regard to the fact that this is the EC 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

All tests were carried out by the testing laboratories: Institute for testing and certification, a.s., Zlín, Czech Republic; Occupational Safety Research Institute, Prague, Czech Republic.

The documentation was examined and visual inspection and product type assessment were performed in Institute for testing and certification, a.s.

3.6 Results of tests and assessment

Results of the personal protective equipment evaluation are summarised in Table No. 6. Test methods stated in respective part of Tables No. 4 and 5 were used.

Table 6: Results of evaluation of the Coated nonwoven work protective clothing, type: SECUTEX PRO A

Significant property	Measuring unit	Requirement	Determination
Basic health safety and ergonomics requirements		art. 4 ČSN EN ISO 13688	**pass**
- Innocuousness – general pH of water extract	–	art. 4.2 ČSN EN ISO 13688 > 3,5 < 9,5	**pass** 7,7
- construction	–	art. 4.3 ČSN EN ISO 13688 art. 5 ČSN EN 13034+A1 art. 4.2.2 ČSN EN 1149-5	**pass**
- comfort, ergonomics	–	art. 4 ČSN EN ISO 13688 + Annex C art. 5 ČSN EN 13034+A1	**pass**
Abrasion resistance *basic material*	number of cycles to wear out	art. 4.1 ČSN EN 13034 + A1 (min. level 1) **Level 6**: > 2000	**pass** > 4000 < 4500
Trapezoidal tear resistance *basic material*	N	art. 4.1 ČSN EN 13034 + A1 (min. level 1) **Level 2**: > 20 ≤ 40	**pass** lengthwise / crosswise 29 / 30
Tensile strength *basic material*	N	art. 4.1 ČSN EN 13034 + A1 (min. level 1) **Level 2**: > 60 ≤ 100	**pass** lengthwise / crosswise 60 / 123
Puncture resistance *basic material*	N	art. 4.1 ČSN EN 13034 + A1 (min. level 1) **Level 1**: > 5 ≤ 10	**pass** 6,3
Index of repellency R *basic material*	%	art. 4.1 ČSN EN 13034 + A1 (min. level 3 for at least one chemical from the table 9 EN 14325)	**pass**
• 30% H_2SO_4		**Level 2**: > 90	91,1
• 10% NaOH		**Level 3**: > 95	95,1
• p-xylene		**Level 1**: > 80	86,4
• 1-butanol		**Level 1**: > 80	87,0

Table 6 from the page 11 continues: Results of evaluation of the Coated nonwoven work protective clothing, type: SECUTEX PRO A

Significant property	Measuring unit	Requirement	Determination
Index of penetration P *basic material*	%	art. 4.1 ČSN EN 13034 + A1 (min. level 2 for at least one chemical from the table 9 EN 14325)	**pass**
• 30% H_2SO_4		**Level 3**: < 1	0,2
• 10% NaOH		**Level 3**: < 1	0
• o-xylene		**Level 3**: < 1	0
• 1-butanol		**Level 3**: < 1	0
Seam strength *whole garment*	N	art. 4.2.2 ČSN EN 13034 + A1 (min. level 1) **Level 4**: > 125 ≤ 300	**pass** 153
Spray test (mist test) *whole garment*	cm^2	art. 5.2 ČSN EN 13034 + A1 Whole area of identification coloration (spots) ≤ triplication of calibration area of the identification coloration – spots	**pass** 0 without penetration
Electrostatic properties	-	art. 4.2.1 ČSN EN 1149-5	**pass**
- surface resistivity	Ω	≤ $2,5 \times 10^9$ at least for one surface	back side / face side $1,30 \times 10^8$ / $1,89 \times 10^8$
Sizes	-	art. 6 ČSN EN ISO 13688	**pass**
Marking	-	art. 7 ČSN EN ISO 13688 art. 6 ČSN EN 13034+A1 art. 5 ČSN EN 1149-5	**pass**
Information for use	-	art. 8 ČSN EN ISO 13688 art. 7 ČSN EN 13034+A1 art. 6 ČSN EN 1149-5	**pass**

The bases for the evaluations stated in Table No. 6, pages 11 - 12, are test results specified in the following test reports:

- Final Report Ref. No. 723301315/2016 issued by Institute for testing and certification, a.s. Zlín on 2016-09-06

3.7 Assessment of product conformity with technical specifications and basic requirements

The assessed product – Coated nonwoven work protective clothing, type: SECUTEX PRO A - specified in Item 1 hereof – complies with the requirements set by the following technical standards with regard to its design and submitted documentation:

ČSN EN ISO 13688:2014 (EN ISO 13688:2013)
Protective clothing – General requirements

ČSN EN 13034+A1:2009 (EN 13034:2005+A1:2009)
Protective clothing against liquid chemicals - Performance requirements for chemical protective clothing offering limited protective performance against liquid chemicals (Type 6 and Type PB [6] equipment)

ČSN EN 1149-5:2008 (EN 1149-5:2008)
Protective clothing – Electrostatic properties – Part 5: Material performance and design requirements

Results of the evaluation of the personal protective equipment stated in Table No. 6 hereof prove the conformity of all indicators specifying general basic requirements of Directive No 89/686/EEC and Government Regulation No. 21/2003 Coll., 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 EC Type-Examination of the personal protective equipment

Coated nonwoven work protective clothing

Type: SECUTEX PRO A

Technical specifications used by the manufacturer are in compliance with basic requirements of Government Regulation No. 21/2003 Coll. which transposed Directive No. 89/686/EEC to the Czech system of law.

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 Czech Government Regulation No. 21/2003 Coll. and Directive No. 89/686/EEC applicable to it.

Notify Body No. 1023 decided to issue EC Type-Examination Certificate.

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

- The application of ZVG Zellstoff – Vertriebs – GmbH & Co KG company from 2016-10-31
- Technical documentation issued by ZVG Zellstoff – Vertriebs – GmbH & Co KG company on 2016-10-31
- Agreement No. 001 between OEM and OBL manufacturers dated on 2016-10-31
- [redacted]
- Declaration about sameness issued by ZVG Zellstoff – Vertriebs – GmbH & Co KG company on 2016-10-31

- Declaration about innocuousness issued by ZVG Zellstoff – Vertriebs – GmbH & Co KG company on 2016-10-31
- Check list issued by ZVG Zellstoff – Vertriebs – GmbH & Co KG company dated on 2016-10-31
- Final Report Ref. No. 723301315/2016 issued by Institute for testing and certification, a.s. Zlín on 2016-09-06
- EC Type-Examination Certificate No. 16 0432 T/NB issued by Institut pro testování a certifikaci, a. s. (Institute for Testing and Certification, Inc.), in Zlín on 2016-09-06