

# SICEN

## Arc configurator



# ARC Configurator

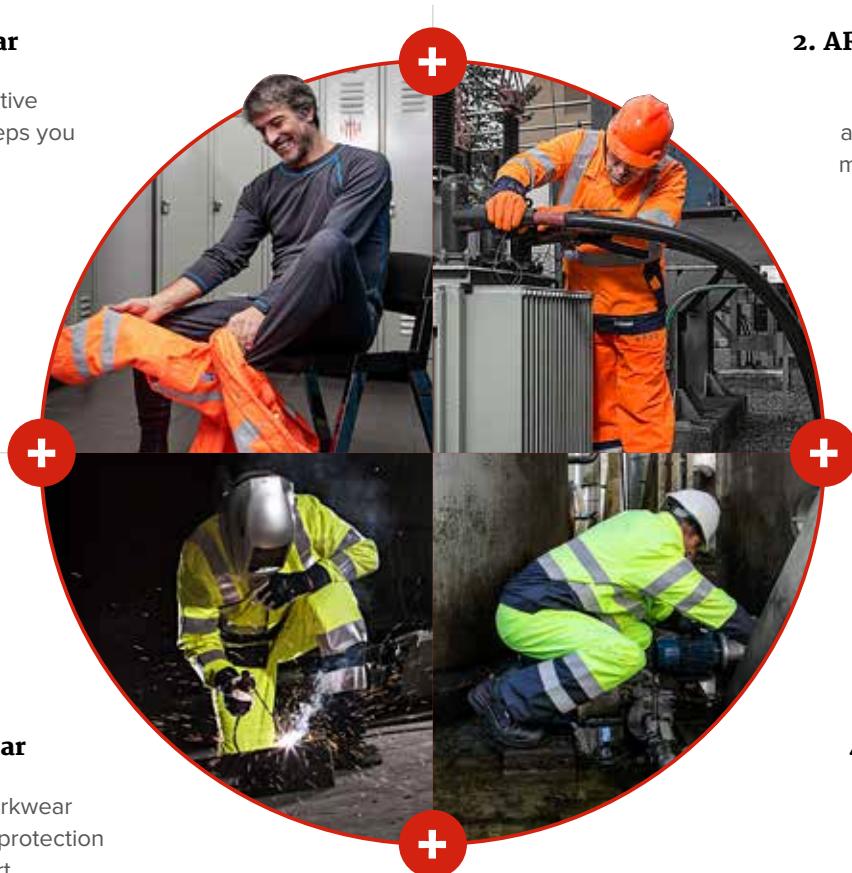
**Increase the level  
of ARC protection by  
multi-layering garments.**

When selecting personal protective clothing to be worn in multi-risk environments it is important that not only the outer shell offers the required protection for that work environment. Also the layers underneath must offer extra protection for the worker in case the hazard penetrates the outer layers.

# When combining different layers of garments the level of protection increases.

## 1. ARC Bodywear

The perfect protective base layer that keeps you dry and warm



## 2. ARC Thermal wear

Keeps you warm and also conforms to multi-norm standards

## 3. ARC Workwear

Our multi-norm workwear combines optimal protection and wearer comfort

A higher level of ARC protection can be obtained by combining and wearing different ARC protective garments together. Also the air in between the different garment acts as a thermal insulator offering increased protection against the thermal effects of an ARC flash.

Using this type of multiple layer solutions offers a high degree of flexibility for workers.

For example when an ARC Class 1 longsleeved polo-shirt is worn together with ARC Class 1 workwear the ARC Class 2 protection level is reached. Thus increasing the level of protection offered by the combination of these garments.

When doing other maintenance work where no ARC Class 2 is required, according to the safety risk analysis, the worker can take off one of the garments, thus going back to an ARC Class 1 level of protection.

Other companies use the ATPV or ELIM value to establish the required level of protection of the worker exposed to the thermal risks of an ARC. Each garment has a value of ATPV or Elim. **The higher this value the higher level of protection shall be offered to the worker in case of exposure to these kind of risks. When combining two garments together the ATPV/ELIM value of the combination will be higher than the sum of the separate values.**

Please find an overview on the next page for the combinations of Sioen ARC Class 1 garments that offer ARC Class 2 protection when wearing them together. The values for the combinations in bold have been fully tested. The values in italic are deductions achieved by adding up the values of the individual garments.

# ARC Configurator

Some examples with ARC Bodywear as a first layer

Example 01

<b>First layer</b>	
Underwear - 462AA2MF2	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 5,7 cal/cm² (ATPV)



<b>Second layer</b>	
Polo-shirt - 527AA2MR2	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 7,4 cal/cm² (EBT)

462AA2MF2 + 527AA2MR2



<b>First layer</b>	
Shirt - 068VA2PIC	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 6,4 cal/cm² (EBT)



<b>Second layer</b>	
Softshell - 9633A2TV4	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 24,3 cal/cm² (ATPV)

068VA2PIC + 9633A2TV4



Example 02

<b>First layer</b>	
Polo-shirt - 542AA2MR2	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 7,4 cal/cm² (EBT)



<b>Second layer</b>	
Workwear - 010VA2PFA	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 15,2 cal/cm² (ATPV)

542AA2MR2 + 010VA2PFA



Example 03

	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 7,4 cal/cm² (EBT)
I =	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 15,2 cal/cm² (ATPV)
I =	
	
IEC 61482-1-2: Class 2	IEC 61482-1-1: 44,8 cal/cm² (ATPV)

# First layer: ARC Bodywear

Please find below the configuration options which are possible when using ARC Bodywear as a first layer in your multi-layer garment configuration.

First layer			Second layer			Combination						
Type	Weight	Styles	Type	Weight	Styles	ATPV/ EBT (cal/cm <sup>2</sup> )	PPE Cate- gory	ELIM	HAF %	LOI %	ARC CL 1	ARC CL 2
Underwear AMF2	220 g/m <sup>2</sup>	462A, 463A	Polo-shirts AMR2	220 g/m <sup>2</sup>	496A, 527A, 542A, 581A	15,2 (EBT)	2	14	89			
			Shirts APIC	180 g/m <sup>2</sup>	065V, 068V, 076V	12,1	2					
			Sweater AMR3	300 g/m <sup>2</sup>	549A, 616A, 635A	30,8 (EBT)	3	29	92,5			
			Sio-Safe™ Extra Light APIP	260 g/m <sup>2</sup>	020V, 022V, 026V, 077V, 078V, 850V, 892V	27	3	25				
Polo-shirts A1PO	210 g/m <sup>2</sup>	554A, 610A	Softshells ATV4	350 g/m <sup>2</sup>	9633, 9634, 9632, 9705, 7332	35		27				
Polo-shirts AMR2	220 g/m <sup>2</sup>	496A, 527A, 542A, 581A	Shirts APIC	180 g/m <sup>2</sup>	065V, 068V, 076V	13,8	2					
			Sweater AMR3	300 g/m <sup>2</sup>	549A, 616A, 635A	22,2	2					
			Fleece jackets ATF5	310 g/m <sup>2</sup>	7690, 9854, 9896	38,4	3	31,3	92,3			
			Softshells ATV4	350 g/m <sup>2</sup>	9633, 9634, 9632, 7332	44,9	4	42,2	93,2			•
			Sio-Safe™ Essential APFA	350 g/m <sup>2</sup>	008V, 009V, 010V, 016V, 017V, 018V, 066V, 072V	44,8	4	41	94,2			•
			Sio-Safe™ Extra APF9	300 g/m <sup>2</sup>	019V, 020V, 026V, 031V, 079V	16,2	2					•
			Sio-Safe™ Extra APFD	320 g/m <sup>2</sup>	020V, 026V	16,2	2					•
			Sio-Safe™ Aqua ALK2 + ASR7	500 g/m <sup>2</sup>	7227, 1005, 7241	47,9	4					•
Shirts APIC	180 g/m <sup>2</sup>	065V, 068V, 076V	Sweater AMR3	300 g/m <sup>2</sup>	549A, 616A, 635A	21,2	2					
			Fleece jackets ATF5	310 g/m <sup>2</sup>	7690, 9854, 9896	17,1	2					
			Softshells ATV4	350 g/m <sup>2</sup>	9633, 9634, 9632, 7332	33,2	3	28,9	92,4			•
			Sio-Safe™ Essential APFA	350 g/m <sup>2</sup>	008V, 009V, 010V, 016V, 017V, 018V, 066V, 072V	21	2	19				•
			Sio-Safe™ Extra APF9	300 g/m <sup>2</sup>	019V, 020V, 026V, 031V, 079V	18	2	16				•
			Sio-Safe™ Extra APFD	320 g/m <sup>2</sup>	020V, 026V	15,2	2					
			Sio-Safe™ Aqua ALK2 + ASR7	500 g/m <sup>2</sup>	7227, 1005, 7241	46,9	4					•

**Bold & • = Tested**

*Italic & • = Deducted*

Some examples with ARC Bodywear as a first layer

# ARC Configurator

Some examples with ARC Thermal wear as a first layer

Example 01

<b>First layer</b>	
Sweater - 549AA2MR3	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 14,8 cal/cm <sup>2</sup> (ATPV)

<b>Second layer</b>	
Sio-Safe™ Essential - 009VA2PFA	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 15,2 cal/cm <sup>2</sup> (ATPV)

549AA2MR3 + 009VA2PFA



**First layer**  
Fleece - 9896N2TF5


IEC 61482-1-2: Class 1

**Second layer**  
Sio-Safe™ Essential - 010VA2PFA


IEC 61482-1-2: Class 1

9896N2TF5 + 010VA2PFA



IEC 61482-1-2:  
Class 2

IEC 61482-1-1:  
25,9 cal/cm<sup>2</sup> (ATPV)

Example 02

# First layer: ARC Thermal wear

Please find below the configuration options which are possible when using ARC Thermal wear as a first layer in your multi-layer garment configuration.

First layer			Second layer			Combination						
Type	Weight	Styles	Type	Weight	Styles	ATPV/ EBT (cal/cm <sup>2</sup> )	PPE Cate- gory	ELIM	HAF %	LOI %	ARC CL 1	ARC CL 2
Sweater AMR3	300 g/m <sup>2</sup>	549A, 616A, 635A	Sio-Safe™ Essential APFA	350 g/m <sup>2</sup>	008V, 009V, 010V, 016V, 017V, 018V, 066V, 072V	50,2 (EBT)	4	46	<b>95,8</b>			•
			Sio-Safe™ Extra APF9	300 g/m <sup>2</sup>	019V, 020V, 026V, 031V, 079V	23,6	3					
			Sio-Safe™ Extra APFD	320 g/m <sup>2</sup>	020V, 026V	23,6	2					
			Sio-Safe™ Aqua ALK2 + ASR7	500 g/m <sup>2</sup>	7227, 1005, 7241	55,3	4					•
Fleeces ATF5	310 g/m <sup>2</sup>	7690, 9854, 9896	Sio-Safe™ Essential APFA	350 g/m <sup>2</sup>	008V, 009V, 010V, 016V, 017V, 018V, 066V, 072V	25,9	3					•
			Sio-Safe™ Extra APF9	300 g/m <sup>2</sup>	019V, 020V, 026V, 031V, 079V	19,5	2					
			Sio-Safe™ Extra APFD	320 g/m <sup>2</sup>	020V, 026V	19,5	2					
			Sio-Safe™ Aqua ALK2 + ASR7	500 g/m <sup>2</sup>	7227, 1005, 7241	51,2	4					•
Softshells ATV4	350 g/m <sup>2</sup>	9633, 9634, 9632, 7332	Sio-Safe™ Essential APFA	350 g/m <sup>2</sup>	008V, 009V, 010V, 016V, 017V, 018V, 066V, 072V	39,5	3					•
			Sio-Safe™ Extra APF9	300 g/m <sup>2</sup>	019V, 020V, 026V, 031V, 079V	<b>38</b>	<b>3</b>	<b>32</b>				•
			Sio-Safe™ Extra APFD	320 g/m <sup>2</sup>	020V, 026V	33,1	3					•
			Sio-Safe™ Aqua ALK2 + ASR7	500 g/m <sup>2</sup>	7227, 1005, 7241	64,8	4					•
			Siopor® Excell AET1 + APVF	400 g/m <sup>2</sup>	7227	<b>60</b>	<b>4</b>	<b>51,6</b>	<b>95,3</b>			
			Siopor® Excell AET2	270g/m <sup>2</sup>	7329, 7330, 7331, 7429, 7430	<b>51,65</b>	<b>4</b>	<b>45</b>				•

Test results with ARC Thermal wear as a first layer

**Bold & • = Tested**  
*Italic & • = Deducted*

# ARC Configurator

Some examples with ARC Workwear as a first layer

Example 01

<b>First layer</b> Sio-Safe™ Essential - 010VA2PFA	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 15,2 cal/cm² (ATPV)
IEC 61482-1-2: Class 2	IEC 61482-1-1: 55,2 cal/cm² (ATPV)



<b>Second layer</b> Sio-Safe™ Aqua - 7227A2LK2	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 31,9 cal/cm² (ATPV)
IEC 61482-1-2: Class 2	IEC 61482-1-1: 49,3 cal/cm² (ATPV)

010VA2PFA + 7227A2LK2



Example 02

<b>First layer</b> Sio-Safe™ Extra - 019VA2PF9	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 8,8 cal/cm² (ATPV)
IEC 61482-1-2: Class 2	IEC 61482-1-1: 49,3 cal/cm² (ATPV)



<b>Second layer</b> Sio-Safe™ Aqua - 7227A2LK2	
	
IEC 61482-1-2: Class 1	IEC 61482-1-1: 31,9 cal/cm² (ATPV)
IEC 61482-1-2: Class 2	IEC 61482-1-1: 49,3 cal/cm² (ATPV)

019VA2PF9 + 7227A2LK2



# First layer: ARC Workwear

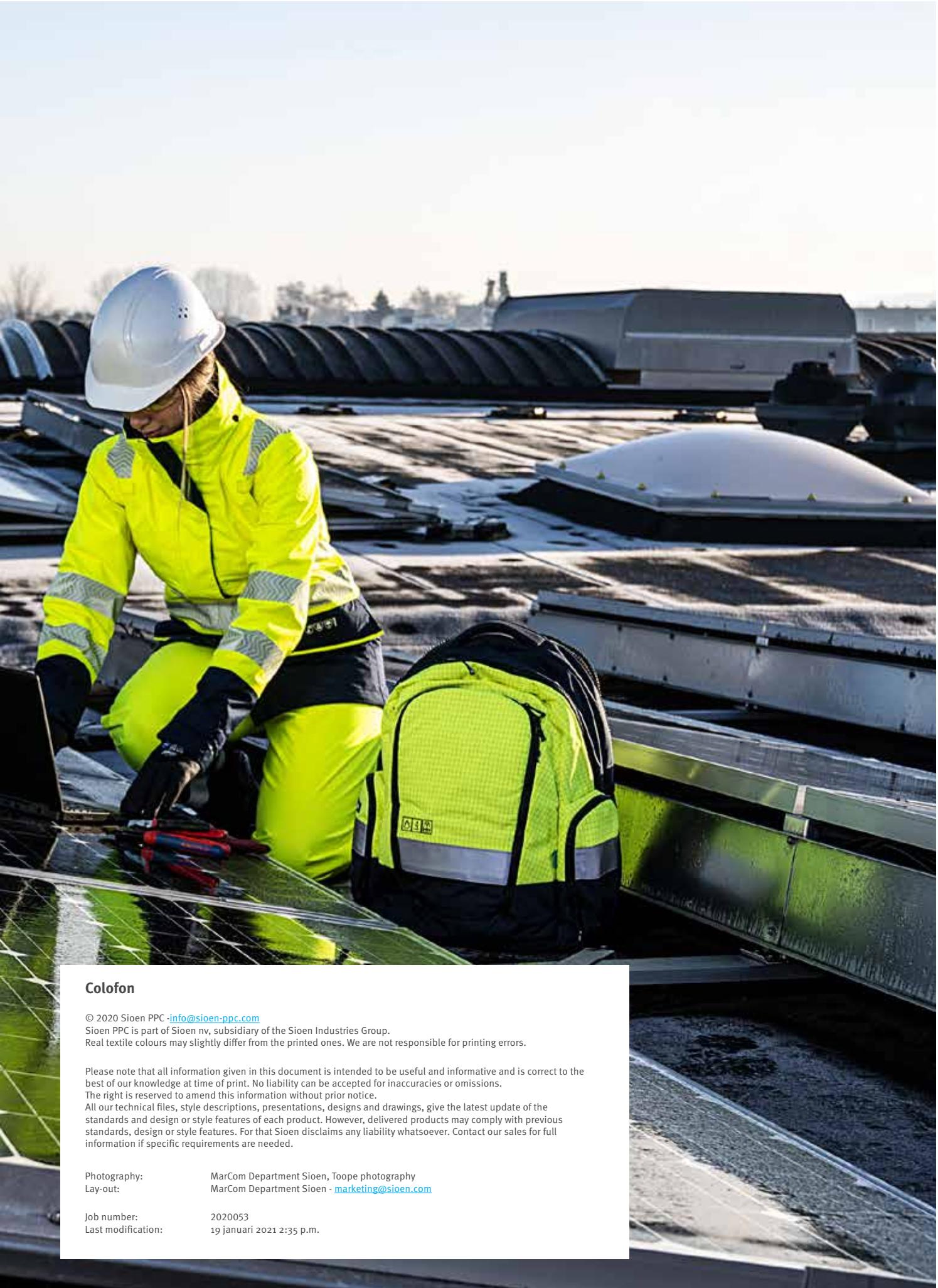
Please find below the configuration options which are possible when using ARC workwear as a first layer in your multi-layer garment configuration.

First layer			Second layer			Combination						
Type	Weight	Styles	Type	Weight	Styles	ATPV/ EBT (cal/cm <sup>2</sup> )	PPE Cate- gory	ELIM	HAF %	LOI %	ARC CL 1	ARC CL 2
Sio-Safe™ Essential APFA	350 g/m <sup>2</sup>	008V, 009V, 010V, 016V, 017V, 018V 066V 072V	Siopor® Excell AET2	270 g/m <sup>2</sup>	7329, 7330, 7331, 7429, 7430	51,65	4	45			•	
			Sio-Safe™ Aqua ALK2 + ASR7	500 g/m <sup>2</sup>	7227, 1005, 7241	55,2	4	49,3	96		•	
			Sio-Safe™ Aqua ALE9	335 g/m <sup>2</sup>	7240	64,4	4	54	95,6			
Sio-Safe™ Extra Light APIP	260g/m <sup>2</sup>	020V, 077V	Siopor® Excell AET2	270 g/m <sup>2</sup>	7329, 7330, 7331, 7429, 7430	39	3	29				
Sio-Safe™ Extra APF9	300 g/m <sup>2</sup>	019V, 020V, 026V, 031V, 079V	Sio-Safe™ Aqua ALK2 + ASR7	500 g/m <sup>2</sup>	7227, 1005, 7241	49,3	4				•	
Sio-Safe™ Extra APFD	320 g/m <sup>2</sup>	020V, 026V	Sio-Safe™ Aqua ALK2 + ASR7	500 g/m <sup>2</sup>	7227, 1005, 7241	49,3	4				•	

Test results with ARC Workwear as a first layer

**Bold & • = Tested**  
*Italic & • = Deducted*





## Colofon

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SIOEN



E-MAIL: [INFO@SIOEN-PPC.COM](mailto:INFO@SIOEN-PPC.COM)  
PHONE: +32 (0)51 740 800  
[WWW.SIOEN-PPC.COM](http://WWW.SIOEN-PPC.COM)