

FROZEN - padded trousers						
Description	3M™ SCOTCHLITE™ Reflective Material reflex inserts - 8910 Silver Fabric, - adjustable waist, - bottom opening with zip, - double back pocket with flap, - knee and leg ergonomic design, - knee patches, - reinforced leg end, - right side pocket, - thermo welded, - wide back zipped pocket, - YKK® zip					
	Maintenance	Maximum wash temperature: 30°C; Do not bleach; Do not dry clean; Do not dry in a tumble dryer; Do not iron.   WARNING: DO NOT IRON THE REFLEX INSERTS!			Item	V008-0-00 Khaki/black V008-0-01 Grey/black V008-0-02 Navy/black V008-0-03 Clay brown/black V008-0-04 Anthracite/black V008-0-05 Black/black
		Standards EN ISO 13688:2013				
		 EN 342:2017 Icler 0.383(B) 3 X  EN 343:2003+A1:2007  Tested for harmful substances. www.oeko-tex.com/standard100 (with parka ICESTORM)				
		Sizes	44 – 64			

SAFETY TECHNICAL SPECIFICATIONS

	Test method	description	Cofra result	minimum requirement / range
Background and colour insert fabric	EN ISO 1833-1977, SECTIONE 10	Composition : polyester Polyurethane coated	100%	
	EN ISO 12127:1996	Weight per unit area	200 g/m ²	
	EN ISO 13688:2013 4.2 (EN 1413)	The pH's determination from the watery extract	pH: 5.6	3,5≤PH≤9,5
	EN ISO 13688:2013 4.2 (EN 14362-1:2012)	Search of the aromatic and carcinogenic amines	Not recording	≤30 ppm
	EN ISO 13688:2013 5.3 (EN ISO 6630 / ISO5077)	Dimensional change to washing (4N/40°C)	warp: -0.5% weft: 0.0%	± 3 %
	ISO 105-X12	Colour fastness to rubbing	dry: 4-5 wet: 4-5	≥3

	ISO 105-C06	Colour fastness to Laundering at 60°C			
		Colour change	4-5		≥3
		Staining:			
		diacetate	4-5		
		cotton	4-5		
		nylon	4		
		polyester	4-5		
		acrylic	4-5		
		wool	4-5		
	ISO 105 E04	Colour fastness to perspiration	Acid	Alkaline	
		Colour change	4-5	4-5	≥3
		Staining:			
		diacetate	4-5	4-5	
		cotton	4-5	4-5	
		nylon	4-5	4-5	
		polyester	4-5	4-5	
		acrylic	4-5	4-5	
		wool	4-5	4-5	
	ISO 105-B02	Colour fastness to light -Test with a xenon arc lamp			
		Colour change	4		≥5
	EN 343:2003+A1:2007	Water penetration resistance -	>8000 Pa	CLASS 1	Wp ≥ 8000 Pa
	4.2	Wp [Pa]		CLASS 2	no test required
	(EN 20811)	(before each pretreatment)		CLASS 3	no test required
	EN 343:2003+A1:2007	Water penetration resistance -	Class 3	CLASS 1	no test required
	4.2	Wp [Pa]	Wp> 13000 Pa	CLASS 2	Wp ≥ 8.000 Pa
	(EN 20811)	(after each pretreatment)		CLASS 3	Wp ≥ 13.000 Pa
	EN 343:2003+A1:2007	Water vapour resistance	Class 3	CLASS 1	R _{et} > 40
	4.3	R _{et} [m ² Pa/W]	R _{et} = 10.6 [m ² Pa/W]	CLASS 2	20 < R _{et} < 40
	(EN 31092)			CLASS 3	R _{et} < 20
	EN 343:2003+A1:2007	Tensile strength	warp: 1419 N		>450 N
	4.4		weft: 1052 N		
	(EN ISO 1421)				
	EN 343:2003+A1:2007	Tear resistance of coated or laminated fabrics	warp: 252.78 N		>25 N
	4.5		weft: 196.52 N		
	(EN ISO 4674)				
Reflex 3M™ Scotchlite™ 8910 Silver Fabric	EN ISO 20471:2013/A1:2016	Retro reflective performance requirements of new material	PASS		
	6.1				
	EN ISO 20471:2013/A1:2016	Requirements of retro reflective performance after tests for abrasion, flexion, folding at cold temperature, temperature variations, washing (50 cycles) and rain influence.	PASS		R' ≥ 100 cd/(lx m ²)
	6.2				

Lining	Composition: polyester		100%																																																																																																																																																																																				
Padding	Composition: polyester		100%																																																																																																																																																																																				
	Weight per unit area		160 g/m ²																																																																																																																																																																																				
FROZEN	EN 343:2003+A1:2007 4.2 (EN 20811)	Seams: Water penetration resistance Wp - [Pa]	>19613 Pa (Class 3) CLASS 1 no test required CLASS 2 Wp ≥ 8.000 Pa CLASS 3 Wp ≥ 13.000 Pa																																																																																																																																																																																				
	EN 343:2003+A1:2007 4.3 (EN 31092)	Water vapour resistance Ret [m ² Pa/W]	Ret=88.5(Classe 1) CLASS 1 Ret > 40 CLASS 2 20 < Ret < 40 CLASS 3 Ret <20																																																																																																																																																																																				
	EN 343:2003+A1:2007 4.7 (EN ISO 13935-2)	Determination of maximum force to seam rupture using the grab method	270 N ≥ 225 N																																																																																																																																																																																				
	EN 342:2017 6.3 (UNI EN ISO 15831)	Measurement of thermal insulation by means of a thermal manikin (after 5 cycles wash a 30°C)	I _{cler} 0.383(B) m ² K/W																																																																																																																																																																																				
<table><tr><th colspan="13">Table B: resultant effective thermal insulation of clothing I_{cler} and ambient temperature conditions for heat balance at different activity levels and duration of exposure</th></tr><tr><th rowspan="3">thermic insulation I_{cler}</th><th colspan="12">moving activity</th></tr><tr><th colspan="2">-</th><th colspan="2">-</th><th colspan="2">light</th><th colspan="2">light</th><th colspan="2">medium</th><th colspan="2">medium</th></tr><tr><th colspan="2">75 W/m²</th><th colspan="2">75 W/m²</th><th colspan="2">115 W/m²</th><th colspan="2">115 W/m²</th><th colspan="2">170 W/m²</th><th colspan="2">170 W/m²</th></tr><tr><th>[m² K/W]</th><th colspan="2">air speed 0,4 m/s</th><th colspan="2">air speed 3 m/s</th><th colspan="2">air speed 0,4 m/s</th><th colspan="2">air speed 3 m/s</th><th colspan="2">air speed 0,4 m/s</th><th colspan="2">air speed 3 m/s</th></tr><tr><td></td><td>8h</td><td>1h</td><td>8h</td><td>1h</td><td>8h</td><td>1h</td><td>8h</td><td>1h</td><td>8h</td><td>1h</td><td>8h</td><td>1h</td></tr><tr><td>0,265</td><td>13</td><td>0</td><td>19</td><td>7</td><td>3</td><td>-12</td><td>9</td><td>-3</td><td>-12</td><td>-28</td><td>-2</td><td>-16</td></tr><tr><td>0,310</td><td>10</td><td>-4</td><td>17</td><td>3</td><td>-2</td><td>-18</td><td>6</td><td>-8</td><td>-18</td><td>-36</td><td>-7</td><td>-22</td></tr><tr><td>0,383</td><td>5,4</td><td>-11,3</td><td>13,4</td><td>-2,5</td><td>-8,4</td><td>-27,1</td><td>0,5</td><td>-15,3</td><td>-28,1</td><td>-47,9</td><td>-15,2</td><td>-32,0</td></tr><tr><td>0,390</td><td>5</td><td>-12</td><td>13</td><td>-3</td><td>-9</td><td>-28</td><td>0</td><td>-16</td><td>-29</td><td>-49</td><td>-16</td><td>-33</td></tr><tr><td>0,470</td><td>0</td><td>-20</td><td>7</td><td>-9</td><td>-17</td><td>-38</td><td>-6</td><td>-24</td><td>-40</td><td>-60</td><td>-24</td><td>-43</td></tr><tr><td>0,500</td><td>-2,1</td><td>-22,6</td><td>5,7</td><td>-11,1</td><td>-20</td><td>-41</td><td>-8,1</td><td>-26,6</td><td>-43,8</td><td>-64,7</td><td>-27,4</td><td>-46,8</td></tr><tr><td>0,540</td><td>-5</td><td>-26</td><td>4</td><td>-14</td><td>-24</td><td>-45</td><td>-11</td><td>-30</td><td>-49</td><td>-71</td><td>-32</td><td>-52</td></tr><tr><td>0,620</td><td>-10</td><td>-32</td><td>0</td><td>-20</td><td>-31</td><td>-55</td><td>-17</td><td>-38</td><td>-60</td><td>-84</td><td>-40</td><td>-61</td></tr></table>				Table B: resultant effective thermal insulation of clothing I _{cler} and ambient temperature conditions for heat balance at different activity levels and duration of exposure													thermic insulation I _{cler}	moving activity												-		-		light		light		medium		medium		75 W/m ²		75 W/m ²		115 W/m ²		115 W/m ²		170 W/m ²		170 W/m ²		[m ² K/W]	air speed 0,4 m/s		air speed 3 m/s		air speed 0,4 m/s		air speed 3 m/s		air speed 0,4 m/s		air speed 3 m/s			8h	1h	8h	1h	8h	1h	8h	1h	8h	1h	8h	1h	0,265	13	0	19	7	3	-12	9	-3	-12	-28	-2	-16	0,310	10	-4	17	3	-2	-18	6	-8	-18	-36	-7	-22	0,383	5,4	-11,3	13,4	-2,5	-8,4	-27,1	0,5	-15,3	-28,1	-47,9	-15,2	-32,0	0,390	5	-12	13	-3	-9	-28	0	-16	-29	-49	-16	-33	0,470	0	-20	7	-9	-17	-38	-6	-24	-40	-60	-24	-43	0,500	-2,1	-22,6	5,7	-11,1	-20	-41	-8,1	-26,6	-43,8	-64,7	-27,4	-46,8	0,540	-5	-26	4	-14	-24	-45	-11	-30	-49	-71	-32	-52	0,620	-10	-32	0	-20	-31	-55	-17	-38	-60	-84	-40	-61
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	EN 342:2017 5.2 (UNI EN ISO 9237)	Determination of the permeability of fabrics to air	AP <1 mm/s Class 3 CLASS 1 AP (mm/s) 2 AP >100 3 5<AP<100 AP<5																																																																																																																																																																																				