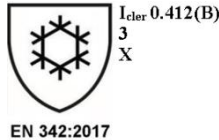


GRADO – padded bib			
Description	- adjustable elaticated braces, - badge holder ring under the flap, - central opening closed with zip and snap, internal and external double flap, - double front pocket at the waistline with velcro closed flap, - pockets for safe knees padded with <i>Thinsulate</i>[™]: this area has been reinforced because when on knees the wearer can exert pressure on this area, thus causing thermal dispersion, - side opening along the whole leg closed by zip and snap, with double external and internal flap		
Maintenance	Maximum wash temperature: 30°C; Do not bleach; Do not dry clean; Do not dry in a tumble dryer; Do not iron.		Item
			Standards
	 		Sizes
		S-4XL	

SAFETY TECHNICAL SPECIFICATIONS

	Test method	Description	Cofra result	Minimum requirement / range
Background fabric	EN ISO 1833-1977, SECTIONE 10	Composition	100% Nylon Oxford 420 D	
	EN ISO 12127:1996	Weight per unit area	145 g/m ²	
	EN ISO 13688 :2013 4.2 (EN 14362-1)	Search of the aromatic and carcinogenic amines	Not recording	≤30 ppm
	EN ISO 13688:2013 4.2 (EN ISO 3071)	The pH's determination from the watery extract	pH = 5.9	3,5 ≤pH≤ 9,5
	EN ISO 13688:2013 5.3 (ISO 5077)	Dimensional change to washing after 5 washes (30°C)	warp: -1.4% weft: -1.4%	±3%

	EN 342:2017 4.6.1 (EN ISO 4674-1)	Tear strength	warp: 129 N weft: 114 N	>20 N
	ISO 105 E04	Colour fastness to perspiration <i>Colour change</i> <i>Staining:</i> diacetate cotton nylon polyester acrylic wool	Acidic 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-5	Alkaline 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-5
	ISO 105-C06	Colour fastness to laundering at 40°C <i>Colour change</i> <i>Staining:</i> diacetate cotton nylon polyester acrylic wool	4-5 4-5 4-5 4-5 4-5 4-5 4-5	1-5
	ISO 105-X12	Colour fastness to rubbing	Dry: 4-5 Wet: 4-5	1-5
	ISO 105-B02	Colour fastness to light <i>Colour change:</i>	5	1-5
	EN ISO 13934-1	Tensile strength	warp: 1600 N weft: 900 N	
Lining	EN ISO 1833-1977, SEZIONE 10	Composition	100% Polyester	
	EN ISO 12127:1996	Weight per unit area	55 g/m ²	
Padding	EN ISO 1833-1977, SEZIONE 10	Composition	100% Polyester (Thinsulate®)	
	EN ISO 12127:1996	Weight per unit area	1 layer G150 150 g/m ²	
Reflex <i>retro reflective fabric</i> <i>D6110</i>	EN ISO 20471:2013/A1:2016 6.1	Retro reflective performance requirements of new material	PASS	

	EN ISO 20471:2013/A1:2016 6.2	Requirements of retro reflective performance after tests for abrasion, flexion, folding at cold temperature, temperature variations, washing (50 cycles ISO 6330 at 60°C) and rain influence.	PASS	$R' \geq 100 \text{ cd/(lx m}^2\text{)}$																																																																																																																																																																																				
Leida+Grado	EN 342:2017 6.3 (EN ISO 15831)	Measurement of thermal insulation by means of a thermal manikin	after 5 washes a 30°C $I_{cler} 0.412 \text{ [m}^2\text{K/W]}$																																																																																																																																																																																					
<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>0,390</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>0,412</td><td>3,6</td><td>-14,2</td><td>11,4</td><td>-4,7</td><td>-11,2</td><td>-30,8</td><td>-1,7</td><td>-18,2</td><td>-32,0</td><td>-52,0</td><td>-18,2</td><td>-35,8</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	0,390	5	-12	13	-3	-9	-28	0	-16	-29	-49	-16	-33	0,412	3,6	-14,2	11,4	-4,7	-11,2	-30,8	-1,7	-18,2	-32,0	-52,0	-18,2	-35,8	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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