

# Maximum allowed size of embroidery & transfer on Fristads high-visibility garments.

EN ISO 20471 is a standard for high-visibility garments. High-visibility clothing has fluorescent areas and reflective material conforming to certification requirements according to three different classes. Class 3 is the highest safety class. Garments that are certified according to class 3 can be combined with any other garment, as long as these do not cover the high-visibility garment's fluorescent or reflective areas.

On garments personalised with company logos, it is important to ensure that the logo does not obscure too great a proportion of the fluorescent area. This table will help you determine how large your logo can be. The total fluorescent area must be at least 0.8 m<sup>2</sup> to conform with class 3.

## Minimum area in m<sup>2</sup> to obtain approval according to EN ISO 20471

MATERIAL	CLASS 3	CLASS 2	CLASS 1
Fluorescent	0.8	0.5	0.14
Reflective	0.2	0.13	0.1



### EN ISO 20471

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ART. NO	SIZE	EN ISO 20471 HI-VIS CLASS	REFLECTIVE AREA/M <sup>2</sup>	FLUO-RESCENT AREA/M <sup>2</sup>	HI-VIS CO-CERTIFICATION	MAX AREA CM <sup>2</sup> FOR TRANSFER AND EMBROIDERY
100001	XS	2	0.23	0.7	U6	2000 cm <sup>2</sup>
100001	≥S	3	0.25	0.82	U6	200 cm <sup>2</sup>
100002	≥C44	2	0.13	0.64	T4	1400 cm <sup>2</sup>
100003	≥C44	2	0.13	0.81	T6	3100 cm <sup>2</sup>
100004	≥S	3	0.3	0.84	-	400 cm <sup>2</sup>
100134	XS-S	2	0.16	0.75	U6	2500 cm <sup>2</sup>
100134	>M	3	0.2	0.82	U6	200 cm <sup>2</sup>
100279	>C44	1	0.1	0.17	T1	300 cm <sup>2</sup>
100382	XS/S	1	0.1	0.44	W1	3000 cm <sup>2</sup>
100382	> M	2	0.14	0.51	W1	100 cm <sup>2</sup>
100416	>S/M	3	0.25	0.83	U6	300 cm <sup>2</sup>
100496	>XS	3	0.2	0.82	U6	200 cm <sup>2</sup>
100972	XS-M	2	0.2	0.58	U4	800 cm <sup>2</sup>
100972	>L	3	0.23	0.8	U4	*
100973	XS-M	2	0.2	0.63	U5	1300 cm <sup>2</sup>
100973	>XL	3	0.24	0.8	U5	*
100974	>C44	2	0.13	0.65	T4	1500 cm <sup>2</sup>
100975	>C44	2	0.13	0.65	T4	1500 cm <sup>2</sup>
100976	>C44	2	0.14	0.53	S2	300 cm <sup>2</sup>
100977	C44-C50	1	0.14	0.39	S1	2500 cm <sup>2</sup>
100977	>C52	2	0.16	0.52	S1	200 cm <sup>2</sup>
100978	>C44	1	0.1	0.14	T1	*
100979	>C44	1	0.1	0.14	T1	*
100984	>XS	2	0.14	0.7	T4	2000 cm <sup>2</sup>
100994	>XS	2	0.15	0.63	T4	1300 cm <sup>2</sup>
101006	>XS	3	0.22	0.9	U6	1000 cm <sup>2</sup>
101010	>XS	2	0.13	0.68	W2	1800 cm <sup>2</sup>
101018	>C44	2	0.13	0.7	T4	2000 cm <sup>2</sup>
101019	>C44	2	0.14	0.76	T5	2600 cm <sup>2</sup>
110141	>XS	2	0.13	0.54	W1	400 cm <sup>2</sup>
110151	>XS	3	0.2	0.83	U6	300 cm <sup>2</sup>
111189	C34-C40	1	0.12	0.63	T4	4900 cm <sup>2</sup>
111189	>C42	2	0.13	0.72	T4	2200 cm <sup>2</sup>
111190	>C34	1	0.1	0.21	T2	700 cm <sup>2</sup>
111191	C34-C40	1	0.12	0.63	T4	4900 cm <sup>2</sup>
111191	>C42	2	0.13	0.72	T4	2200 cm <sup>2</sup>
111192	>C34	1	0.1	0.21	T2	700 cm <sup>2</sup>
111332	XS-M	2	0.21	0.65	U5	1500 cm <sup>2</sup>
111332	>L	3	0.25	0.84	U5	400 cm <sup>2</sup>
111333	XS-M	2	0.2	0.65	U5	1500 cm <sup>2</sup>
111333	>L	3	0.25	0.84	U5	400 cm <sup>2</sup>
111376	>XXS	2	0.13	0.58	T3	800 cm <sup>2</sup>
114026	>C44	1	0.1	0.14	T1	*
114040	XXS	2	0.2	0.72	U6	2200 cm <sup>2</sup>
114040	>XS	3	0.25	0.81	U6	100 cm <sup>2</sup>
114041	XXS	2	0.2	0.71	U6	2100 cm <sup>2</sup>

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114041	>XS	3	0.21	0.8	U6	*
114042		2	0.14	0.81	T6	3100 cm <sup>2</sup>
114087	XXS	2	0.19	0.91	U6	4100 cm <sup>2</sup>
114087	>XS	3	0.2	0.95	U6	1500 cm <sup>2</sup>
114097	C44-C50	1	0.14	0.41	S1	2700 cm <sup>2</sup>
114097	>C52	2	0.17	0.51	S1	100 cm <sup>2</sup>
114099	>C44	1	0.1	0.17	T1	300 cm <sup>2</sup>
114100	XS	2	0.2	0.73	U6	2300 cm <sup>2</sup>
114100	>S	3	0.21	0.81	U6	100 cm <sup>2</sup>
116158	>XS	1	0.1	0.26	T2	1200 cm <sup>2</sup>
117060	>C44	2	0.13	0.68	T4	1800 cm <sup>2</sup>
119621	XS	2	0.19	0.73	U6	2300 cm <sup>2</sup>
119621	>M	3	0.2	0.87	U6	700 cm <sup>2</sup>
119621	S	2	0.2	0.8	U6	3000 cm <sup>2</sup>
119623	XS	2	0.16	0.62	U5	1200 cm <sup>2</sup>
119623	S	2	0.17	0.67	U5	1700 cm <sup>2</sup>
119623	>L	3	0.2	0.8	U5	*
119624	>S	3	0.23	0.83	U6	300 cm <sup>2</sup>
119625	XS-S	2	0.17	0.7	U6	2000 cm <sup>2</sup>
119625	>M	3	0.23	0.86	U6	600 cm <sup>2</sup>
119626	XS	2	0.19	0.79	U6	2900 cm <sup>2</sup>
119626	>S	3	0.2	0.86	U6	600 cm <sup>2</sup>
119627	XS	3	0.3	0.85	U6	500 cm <sup>2</sup>
119627	>S	3	0.32	1.02	U6	2200 cm <sup>2</sup>
119628	XS	3	0.2	0.83	U6	300 cm <sup>2</sup>
119628	>S	3	0.21	0.92	U6	1200 cm <sup>2</sup>
119629	>XS	3	0.2	0.85	U6	500 cm <sup>2</sup>
119630	>XS	3	0.23	0.83	U6	300 cm <sup>2</sup>
120987	XS	2	0.2	0.76	U6	2600 cm <sup>2</sup>
120987	>S	3	0.22	0.82	U6	200 cm <sup>2</sup>
120988	>XS	3	0.2	0.8	U6	*
122191	>C44	1	0.1	0.14	T1	*
124176	≥XS	3	0.21	1	U6	2000 cm <sup>2</sup>
124177	XS	2	0.13	0.53	W1	300 cm <sup>2</sup>
124177	>S	2	0.13	0.58	W1	800 cm <sup>2</sup>
124376	>S	3	0.29	0.81	-	100 cm <sup>2</sup>
125023	XS	2	0.14	0.52	U4	200 cm <sup>2</sup>
125023	>S	2	0.15	0.57	U4	700 cm <sup>2</sup>
125024	XS-L	2	0.17	0.66	U6	1600 cm <sup>2</sup>
125024	>XL	3	0.21	0.9	U6	1000 cm <sup>2</sup>
126534	XS-M	2	0.18	0.67	U6	1700 cm <sup>2</sup>
126534	>L	3	0.22	0.88	U6	800 cm <sup>2</sup>
126535	XS-M	2	0.15	0.61	U5	1100 cm <sup>2</sup>
126535	>L	3	0.21	0.89	U5	900 cm <sup>2</sup>
126536	≥C44	1	0.11	0.14	T1	*
126547	XS	2	0.18	0.73	U6	2300 cm <sup>2</sup>

\* Logo placement only possible on contrast colour area, not on fluorescent area.

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126547	S	2	0.19	0.8	U6	3000 cm <sup>2</sup>
126547	M	3	0.2	0.86	U6	600 cm <sup>2</sup>
126547	>L	3	0.21	0.92	U6	1200 cm <sup>2</sup>
127418	>XS	3	0.2	0.85	U6	500 cm <sup>2</sup>
127662	>XS	2	0.13	0.58	T3	800 cm <sup>2</sup>
127663	XS-S	2	0.18	0.73	U6	2300 cm <sup>2</sup>
127663	>M	3	0.2	0.86	U6	600 cm <sup>2</sup>
127666	XS-S	2	0.21	0.73	U6	2300 cm <sup>2</sup>
127666	>M	3	0.21	0.86	U6	600 cm <sup>2</sup>
127731	>C44	1	0.11	0.21	T2	700 cm <sup>2</sup>
127732	>C44	1	0.11	0.22	T2	800 cm <sup>2</sup>
127734	>C44	2	0.13	0.5	T3	*
127735	>C34	1	0.11	0.23	T2	900 cm <sup>2</sup>
127736	>C34	1	0.11	0.23	T2	900 cm <sup>2</sup>
127737	>C34	2	0.13	0.52	T3	200 cm <sup>2</sup>
129509	>XS	1	0.15	0.29	U2	1500 cm <sup>2</sup>
129511	>XS	1	0.1	0.28	U2	1400 cm <sup>2</sup>
129513	>XS	1	0.14	0.26	U2	1200 cm <sup>2</sup>
129514	XS	2	0.19	0.52	U4	200 cm <sup>2</sup>
129514	S	2	0.2	0.57	U4	700 cm <sup>2</sup>
129514	>M	2	0.21	0.6	U4	1000 cm <sup>2</sup>
129515	XS	2	0.18	0.55	U4	500 cm <sup>2</sup>
129515	S	2	0.19	0.59	U4	900 cm <sup>2</sup>
129515	>M	2	0.2	0.61	U4	1100 cm <sup>2</sup>
129516	>C44	1	0.11	0.23	T2	900 cm <sup>2</sup>
129738	≥C34	1	0.1	0.39	S1	2500 cm <sup>2</sup>
130164	≥C44	2	0.13	0.5	T3	*
131110	S	2	0.2	0.76	U6	2600 cm <sup>2</sup>
131110	≥M	3	0.2	0.83	U6	300 cm <sup>2</sup>
131153	>C44	1	0.1	0.27	S1	1300 cm <sup>2</sup>
131154	XS	1	0.11	0.39	S1	2500 cm <sup>2</sup>
131154	M	1	0.15	0.47	S1	3300 cm <sup>2</sup>
131154	>L	2	0.15	0.51	S1	100 cm <sup>2</sup>
131155	>XS	2	0.14	0.55	W1	500 cm <sup>2</sup>
131156	>XS/S	2	0.13	0.53	W1	300 cm <sup>2</sup>

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131157	≥C34	1	0.11	0.19	T1	500 cm <sup>2</sup>
131221	XS-L	2	0.19	0.55	U4	500 cm <sup>2</sup>
131221	>L	3	0.25	0.8	U4	*
131222	>XS	3	0.2	0.85	U6	500 cm <sup>2</sup>
131973	≥C34	2	0.13	0.58	T5	800 cm <sup>2</sup>
131975	≥C44	1	0.11	0.17	T1	300 cm <sup>2</sup>
131976	S	2	0.17	0.79	U6	2900 cm <sup>2</sup>
131976	≥M	3	0.22	0.89	U6	900 cm <sup>2</sup>
131981	≥C44	2	0.13	0.6	T5	1000 cm <sup>2</sup>
131982	≥C44	2	0.13	0.6	T5	1000 cm <sup>2</sup>
131983	≥C34	1	0.11	0.2	T1	600 cm <sup>2</sup>
131984	S-M	2	0.18	0.64	U6	1400 cm <sup>2</sup>
131984	≥L	3	0.2	0.81	U6	100 cm <sup>2</sup>
131985	≥C44	2	0.13	0.61	T5	1100 cm <sup>2</sup>
132849	≥C44	15	0.1	0.177	T1	370 cm <sup>2</sup>
134187	≥C44	1	0.11	0.26	T2	1200 cm <sup>2</sup>
134188	≥C44	2	0.13	0.57	T4	700 cm <sup>2</sup>
134189	≥C44	2	0.13	0.51	T4	100 cm <sup>2</sup>
134190	≥C44	2	0.13	0.54	T4	400 cm <sup>2</sup>
134191	C42-C48	1	0.11	0.4	S2	2600 cm <sup>2</sup>
134191	≥C50	2	0.13	0.51	S2	100 cm <sup>2</sup>
134237	≥C34	1	0.11	0.25	T1	1100 cm <sup>2</sup>
134238	≥C44	1	0.11	0.17	T1	300 cm <sup>2</sup>
134239	≥C34	2	0.13	0.56	T4	600 cm <sup>2</sup>
134240	C44-C48	1	0.13	0.43	S2	2900 cm <sup>2</sup>
134240	≥C50	2	0.14	0.5	S2	Not possible
134241	≥C34	2	0.13	0.58	T4	800 cm <sup>2</sup>
134242	≥S	2	0.13	0.57	W1	700 cm <sup>2</sup>
134243	≥C44	1	0.11	0.26	T2	1200 cm <sup>2</sup>
134244	≥C44	1	0.11	0.25	T2	1100 cm <sup>2</sup>
134245	C42-C48	1	0.11	0.43	S2	2900 cm <sup>2</sup>
134245	≥C50	2	0.13	0.51	S2	100 cm <sup>2</sup>
134246	≥XS	3	0.21	0.81	U6	100 cm <sup>2</sup>
134271	≥C44	1	0.11	0.17	T1	300 cm <sup>2</sup>

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