

Typical Physical Properties of ORION® Fabrics

ORION® fabrics, like PBN-II® fabrics, are nonwoven fabrics made by spinning and thermally bonding continuous filaments of nylon (PA66) into a drapable, conformable, textile-like fabric. ORION® fabrics are bonded with a diamond shaped pattern. ORION® comes in basis weights from 0.30 osy (10g/m2) to 4.0 osy (136 g/m2) in widths up to 120 inches (3 meters).

English Units

Fabric Weight	Thickness (ProGage)	Grab Strength				Trap Tear		Burst Strength	Air Perm. (Tex Test)
		MD		CD		MD	CD		
osy	mils	lbs.	% elong.	lbs.	% elong.	lbs.	lbs.	psi	cfm/ft2
0.30	4.0	7	47	4	49	1	3	8	2232
0.35	5.0	7	51	5	52	2	3	11	1978
0.50	6.0	13	52	8	55	3	4	13	1416
0.70	7.2	20	55	13	58	4	6	19	1041
1.00	9.0	32	59	21	65	6	10	29	720
2.00	14.0	76	70	53	76	15	23	61	288
3.00	17.0	122	78	86	83	25	38	97	163
4.00	19.3	155	87	116	91	35	47	108	91
ASTM D3776	ASTM D5729	ASTM D5034				ASTM D5733		ASTM D3786	ASTM D737

Metric Units

Fabric Weight	Thickness (ProGage)	Grab Strength				Trap Tear		Burst Strength	Air Perm. (Tex Test)
		MD		CD		MD	CD		
gsm	mm	N	% elong.	N	% elong.	N	N	kPa	m3/m2/s
10	0.10	31.1	47	17.8	49	4.4	13.3	55.2	11.34
12	0.13	31.1	51	22.2	52	8.9	13.3	75.8	10.05
17	0.15	57.8	52	35.6	55	13.3	17.8	89.6	7.19
24	0.18	89.0	55	57.8	58	17.8	26.7	131.0	5.29
34	0.23	142.3	59	93.4	65	26.7	44.5	199.9	3.66
68	0.36	338.1	70	235.8	76	66.7	102.3	420.6	1.46
102	0.43	542.7	78	382.5	83	111.2	169.0	668.8	0.83
136	0.49	689.5	87	516.0	91	155.7	209.1	744.6	0.46
ASTM D3776	ASTM D5729	ASTM D5034				ASTM D5733		ASTM D3786	ASTM D737

Typical Roll Sizes and Weights of ORION® Nylon Fabrics

Fabric Weight		Max. Roll Width		Regular Size					
				Roll Length		Approx. Roll Diameter		Approx. Roll Weight	
osy	gsm	inches	mm	yards	m	inches	mm	lbs	kg
0.30	10	112	2'845	3'000	2'743	16	406	173	79
0.40	14	117	2'972	3'000	2'743	18	457	244	111
0.50	17	120	3'048	3'000	2'743	19	483	313	142
0.70	24	121	3'073	3'000	2'743	22	559	441	200
0.85	29	122	3'099	3'000	2'743	25	635	540	245
1.00	34	122	3'099	2'000	1'829	22	559	424	192
1.50	51	122	3'099	1'000	914	19	483	318	144
2.00	68	123	3'124	1'000	914	21	533	627	284
2.50	85	123	3'124	1'000	914	24	610	534	242
3.00	102	123	3'124	500	457	20	508	320	145
4.00	136	123	3'124	500	457	22	559	427	194

Fabric Weight		Max. Roll Width		Jumbo Size					
				Roll Length		Approx. Roll Diameter		Approx. Roll Weight	
osy	gsm	inches	mm	yards	m	inches	mm	lbs	kg
0.30	10	112	2'845	10'000	9'144	28	711	578	262
0.40	14	117	2'972	7'000	6'401	27	686	569	258
0.50	17	120	3'048	7'000	6'401	30	762	729	331
0.70	24	121	3'073	6'000	5'486	30	762	882	400
0.85	29	122	3'099	5'000	4'572	30	762	900	408
1.00	34	122	3'099	3'000	2'743	26	660	635	288
1.50	51	122	3'099	2'000	1'829	27	686	635	288
2.00	68	123	3'124	2'000	1'829	30	762	854	387
2.50	85	123	3'124	1'500	1'372	29	737	800	363
3.00	102	123	3'124	1'000	914	26	660	641	291
4.00	136	123	3'124	1'000	914	30	762	854	387