

# DENSOLEN®-Systems

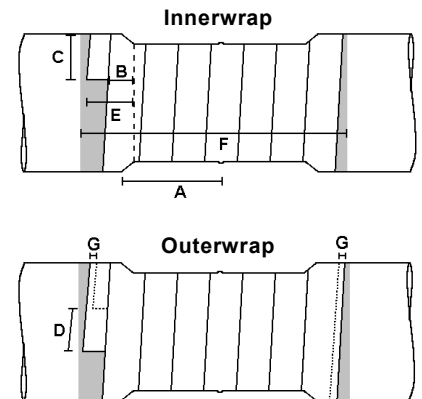
## Quantities Required for Welded Joints



Technology  
for Pipelines  
Corrosion Prevention

### Basis for calculation

<b>A</b>	Cutback		150 mm
<b>B</b>	Min. overlap on factory coating		50 mm
<b>C</b>	Additional quantities required due to start and end of wrapping in 10- and 2-o'clock position		$\frac{1}{6} \times$ pipe circumference
<b>D</b>	Lengthwise coverage of innerwrap		100 mm
<b>E</b>	Starting position of wrapping on factory coating (for initial spiral wrapping cycle)	tape width	30 mm
			50 mm
			100 mm
<b>F</b>	Min. application width of primer		wrapping width + 50 mm
<b>G</b>	Coverage of innerwrap in pipe direction		$\geq 10$ mm
Overlap innerwrap			50 %
Overlap outerwrap		2 layers	50 %
		1 layer	10 mm
Number of wrapping cycles		Tape width [mm]	30 50 100
		Innerwrap, 2 layers	27,3 16,3 8,3
		Outerwrap, 2 layers	29,3 17,3 9,3
		Outerwrap, 1 layer	22,3 11,3 5,3



### Quantities required per welded joint

Pipe diameter DN	D <sub>a</sub> [mm]	Tape width [mm]	Primer [l]	Innerwrap		Outerwrap				Inner + Outerwrap			
				2 layers		2 layers		1 layer		2+2 layers		2+1 layers	
				[m]	[m <sup>2</sup> ]	[m]	[m <sup>2</sup> ]	[m]	[m <sup>2</sup> ]	[m]	[m <sup>2</sup> ]	[m]	[m <sup>2</sup> ]
1/2"	21,3	30	0,01	1,83	0,05	1,83	0,05	1,92	0,06	4,29	0,13	3,75	0,11
3/4"	26,9	30	0,01	2,31	0,07	2,31	0,07	2,31	0,07	5,28	0,16	4,62	0,14
1"	33,7	30	0,01	2,89	0,09	2,89	0,09	2,79	0,08	6,49	0,19	5,68	0,17
1 1/4"	42,4	30	0,01	3,64	0,11	3,64	0,11	3,40	0,10	8,04	0,24	7,04	0,21
1 1/2"	48,3	30	0,02	4,15	0,12	4,15	0,12	3,81	0,11	9,09	0,27	7,96	0,24
50	60,3	30	0,02	5,18	0,16	5,18	0,16	4,65	0,14	11,23	0,34	9,83	0,29
65	76,1	30	0,02	6,53	0,20	6,53	0,20	5,76	0,17	14,04	0,42	12,30	0,37
80	88,9	50	0,03	4,56	0,23	4,56	0,23	3,48	0,17	9,78	0,49	8,04	0,40
100	114,3	50	0,04	5,86	0,29	5,86	0,29	4,38	0,22	12,46	0,62	10,25	0,51
125	133,0	50	0,04	6,82	0,34	6,82	0,34	5,05	0,25	14,44	0,72	11,87	0,59
150	168,3	50	0,06	8,63	0,43	8,63	0,43	6,30	0,32	18,17	0,91	14,94	0,75
200	219,1	50	0,07	11,24	0,56	11,24	0,56	8,11	0,41	23,54	1,18	19,35	0,97
250	273,0	100	0,10	7,14	0,71	7,14	0,71	4,82	0,48	15,44	1,54	11,97	1,20
300	323,9	100	0,12	8,48	0,85	8,48	0,85	5,68	0,57	18,26	1,83	14,15	1,42
350	355,6	100	0,14	9,31	0,93	9,31	0,93	6,21	0,62	20,02	2,00	15,51	1,55
400	406,4	100	0,15	10,64	1,06	10,64	1,06	7,06	0,71	22,84	2,28	17,69	1,77
450	457,2	100	0,17	11,96	1,20	11,96	1,20	7,91	0,79	25,66	2,57	19,87	1,99
500	508,0	100	0,19	13,29	1,33	13,29	1,33	8,76	0,88	28,48	2,85	22,05	2,21
600	609,6	100	0,23	15,95	1,60	15,95	1,60	10,46	1,05	34,11	3,41	26,41	2,64
700	711,2	100	0,27	18,61	1,86	18,61	1,86	12,16	1,22	39,75	3,98	30,77	3,08
750	765,0	100	0,29	20,02	2,00	20,02	2,00	13,06	1,31	42,74	4,27	33,08	3,31
800	812,8	100	0,31	21,27	2,13	21,27	2,13	13,86	1,39	45,39	4,54	35,13	3,51
900	914,4	100	0,35	23,93	2,39	23,93	2,39	15,56	1,56	51,03	5,10	39,49	3,95
1000	1016,0	100	0,39	26,59	2,66	26,59	2,66	17,27	1,73	56,66	5,67	43,85	4,39
1200	1220,0	100	0,46	31,93	3,19	31,93	3,19	20,68	2,07	67,98	6,80	52,61	5,26
1400	1420,0	100	0,54	37,16	3,72	37,16	3,72	24,03	2,40	79,08	7,91	61,19	6,12
1600	1620,0	100	0,62	42,39	4,24	42,39	4,24	27,38	2,74	90,17	9,02	69,77	6,98
1800	1820,0	100	0,69	47,63	4,76	47,63	4,76	30,73	3,07	101,27	10,13	78,36	7,84
2000	2020,0	100	0,77	52,86	5,29	52,86	5,29	34,08	3,41	112,36	11,24	86,94	8,69

The given quantities are determined theoretically and refer to an overlap of exactly 50% in inner- and outerwrap (or 10 mm for 1 layer outerwrap). In practice and in experience an additional amount of 10 to 12 % is required due to additional overlaps. Other site losses are also not included.

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No. 04 issue: 07/08 DENSOLEN quantities joints