

TUBES DE PRECISION EN ACIER SANS SOUDURE

Epais.	Ø dia int.	kg/m	Epais.	Dia int. Ø	kg/m	Epais.	Dia int. Ø	kg/m	Epais.	Dia int. Ø	
Ø 3,0			Ø 8,0			Ø 12,0			Ø 15,0		
0,5	2,0	0,031	0,5	7,0	0,092	0,5	11,0	0,142	0,5	14,0	
1,0	1,0	0,049	0,75	6,5	0,134	1,0	10,0	0,271	0,75	13,5	
Ø 4,0			1,0	6,0	0,173	1,5	9,0	0,388	1,0	13,0	
0,5	3,0	0,043	1,5	5,0	0,240	1,75	8,5	0,442	1,5	12,0	
0,75	2,5	0,060	1,8	4,4	0,275	1,8	8,4	0,453	2,0	11,0	
1,0	2,0	0,074	2,0	4,0	0,296	2,0	8,0	0,493	2,5	10,0	
1,3	1,5	0,085	2,2	3,6	0,315	2,25	7,5	0,541	3,0	9,0	
1,5	1,0	0,092	2,5	3,0	0,339	2,5	7,0	0,586	3,5	8,0	
Ø 5,0			3,0	2,0	0,370	2,8	6,4	0,635	3,75	7,5	
0,5	4,0	0,055	Ø 9,0			3,0	6,0	0,666	4,0	7,0	
0,8	3,5	0,079	0,50	8,0	0,105	3,5	5,0	0,734	4,5	6,0	
1,0	3,0	0,099	0,75	7,5	0,153	4,0	4,0	0,789	5,0	5,0	
1,25	2,5	0,116	1,00	7,0	0,197	Ø 13,0			Ø 16,0		
1,5	2,0	0,129	1,50	6,0	0,277	1,0	11,0	0,296	0,5	15,0	
Ø 6,0			2,00	5,0	0,345	1,5	10,0	0,425	1,0	14,0	
0,5	5,0	0,068	2,50	4,0	0,401	2,0	9,0	0,543	1,5	13,0	
0,7	4,6	0,091	3,00	3,0	0,444	2,5	8,0	0,647	1,8	12,4	
0,75	4,5	0,097	Ø 10,0			3,0	7,0	0,740	2,0	12,0	
1,0	4,0	0,123	0,5	9,0	0,117	3,5	6,0	0,820	2,5	11,0	
1,25	3,5	0,146	0,75	8,5	0,171	4,0	5,0	0,888	3,0	10,0	
1,5	3,0	0,166	1,0	8,0	0,222	4,5	4,0	0,943	3,5	9,0	
2,0	2,0	0,197	1,25	7,5	0,270	Ø 14,0			4,0	8,0	
2,5	1,0	0,216	1,4	7,2	0,297	0,5	13,0	0,166	4,5	7,0	
Ø 7,0			1,5	7,0	0,314	1,0	12,0	0,321	5,0	6,0	
0,5	6,0	0,080	1,8	6,4	0,364	1,5	11,0	0,462	6,0	4,0	
0,75	5,5	0,116	2,0	6,0	0,395	1,8	10,4	0,542	Ø 17,0		
1,0	5,0	0,148	2,5	5,0	0,462	2,0	10,0	0,592	0,5	16,0	
1,25	4,5	0,177	3,0	4,0	0,518	2,5	9,0	0,709	1,0	15,0	
1,5	4,0	0,203	3,5	3,0	0,561	2,8	8,4	0,773	1,5	14,0	
2,0	3,0	0,247	4,0	2,0	0,592	3,0	8,0	0,814	2,0	13,0	
Ø 18,0			Ø 11,0			3,5	7,0	0,906	2,5	12,0	
0,5	17,0	0,216	1,0	9,0	0,247	3,75	6,5	0,948	3,0	11,0	
0,75	16,5	0,319	1,5	8,0	0,351	4,0	6,0	0,986	3,5	10,0	
1,0	16,0	0,419	2,0	7,0	0,444	5,0	4,0	1,110	4,0	9,0	
1,2	15,6	0,497	2,5	6,0	0,524	Ø 20,0			5,0	7,0	
1,5	15,0	0,610	3,0	5,0	0,592	0,5	19,0	0,240	Ø 22,0		
1,8	14,4	0,719	Ø 19,0			0,75	18,5	0,356	0,5	21,0	
2,0	14,0	0,789	0,5	18,0	0,228	1,0	18,0	0,469	0,75	20,5	
2,5	13,0	0,956	1,0	17,0	0,444	1,2	17,6	0,556	1,0	20,0	
2,8	12,4	1,050	1,5	16,0	0,647	1,5	17,0	0,684	1,5	19,0	
3,0	12,0	1,110	2,0	15,0	0,838	1,8	16,4	0,808	1,8	18,4	
3,5	11,0	1,252	2,5	14,0	1,017	2,0	16,0	0,888	2,0	18,0	
3,75	10,5	1,318	3,0	13,0	1,184	2,5	15,0	1,079	2,2	17,6	
4,0	10,0	1,381	3,5	12,0	1,338	2,8	14,4	1,188	2,5	17,0	
4,5	9,0	1,498	4,0	11,0	1,480	3,0	14,0	1,258	2,8	16,4	
5,0	8,0	1,603	4,5	10,0	1,609	3,25	13,5	1,343	3,0	16,0	
5,5	7,0	1,695	5,0	9,0	1,726	3,5	13,0	1,424	3,5	15,0	
6,0	6,0	1,776	Ø 23,0			3,75	12,5	1,503	4,0	14,0	
Ø 21,0			0,5	22,0	0,277	4,0	12,0	1,578	4,5	13,0	
1,0	19,0	0,493	1,0	21,0	0,543	4,5	11,0	1,720	5,0	12,0	
1,5	18,0	0,721	1,5	20,0	0,795	5,0	10,0	1,850	5,5	11,0	
2,0	17,0	0,937	2,0	19,0	1,036	5,5	9,0	1,967	6,0	10,0	
2,5	16,0	1,141	2,5	18,0	1,264	6,0	8,0	2,072	6,25	9,5	
3,0	15,0	1,332	3,0	17,0	1,480	7,0	6,0	2,244	6,5	9,0	
3,5	14,0	1,511	3,5	16,0	1,683	8,0	4,0	2,368	7,0	8,0	
5,0	11,0	1,973	4,0	15,0	1,874				8,0	6,0	
			5,0	13,0	2,220						
			6,0	11,0	2,515						

Epais.	Ø dia int.	kg/m	Epais.	Dia int. Ø	kg/m	Epais.	Dia int. Ø	kg/m	Epais.	Dia int. Ø
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Ø 24,0			Ø 25,0			Ø 26,0			Ø 27,0	
0,5	23,0	0,290	0,5	24,0	0,302	0,5	25,0	0,314	1,0	25,0
1,0	22,0	0,567	1,0	23,0	0,592	0,75	24,5	0,467	1,5	24,0
1,5	21,0	0,832	1,5	22,0	0,869	1,0	24,0	0,617	2,0	23,0
2,0	20,0	1,085	2,0	21,0	1,134	1,5	23,0	0,906	2,5	22,0
2,5	19,0	1,326	2,5	20,0	1,387	1,8	22,4	1,074	3,0	21,0
3,0	18,0	1,554	2,8	19,4	1,533	2,0	22,0	1,184	3,5	20,0
3,5	17,0	1,769	3,0	19,0	1,628	2,5	21,0	1,449	4,0	19,0
4,0	16,0	1,973	3,5	18,0	1,856	3,0	20,0	1,702	4,5	18,0
4,5	15,0	2,164	4,0	17,0	2,072	3,5	19,0	1,942	5,0	17,0
5,0	14,0	2,343	4,5	16,0	2,275	4,0	18,0	2,170	6,0	15,0
5,5	13,0	2,509	5,0	15,0	2,466	4,5	17,0	2,386	7,0	13,0
6,0	12,0	2,663	5,5	14,0	2,645	5,0	16,0	2,589	Ø 31,0	
6,5	11,0	2,805	6,0	13,0	2,811	5,5	15,0	2,781	0,5	30,0
7,0	10,0	2,935	6,5	12,0	2,966	6,0	14,0	2,959	1,0	29,0
8,0	8,0	3,157	7,0	11,0	3,107	6,5	13,0	3,126	1,5	28,0
Ø 28,0			7,5	10,0	3,237	7,0	12,0	3,280	2,0	27,0
0,5	27,0	0,339	8,0	9,0	3,354	8,0	10,0	3,551	2,5	26,0
1,0	26,0	0,666	8,5	8,0	3,459	9,0	8,0	3,773	3,0	25,0
1,5	25,0	0,980	Ø 29,0			Ø 30,0			4,5	22,0
2,0	24,0	1,282	1,0	27,0	0,691	0,5	29,0	0,364	Ø 35,0	
2,5	23,0	1,572	1,5	26,0	1,017	1,0	28,0	0,715	0,5	34,0
2,8	22,4	1,740	2,0	25,0	1,332	1,5	27,0	1,054	0,8	33,4
3,0	22,0	1,850	3,0	23,0	1,924	1,8	26,4	1,252	1,0	33,0
3,5	21,0	2,115	5,0	19,0	2,959	2,0	26,0	1,381	1,5	32,0
4,0	20,0	2,368	Ø 32,0			2,5	25,0	1,695	2,0	31,0
4,5	19,0	2,608	1,0	30,0	0,765	3,0	24,0	1,998	2,5	30,0
5,0	18,0	2,836	1,5	29,0	1,128	3,5	23,0	2,287	3,0	29,0
5,5	17,0	3,052	2,0	28,0	1,480	4,0	22,0	2,565	3,5	28,0
6,0	16,0	3,255	2,5	27,0	1,819	4,5	21,0	2,830	4,0	27,0
6,5	15,0	3,446	3,0	26,0	2,146	5,0	20,0	3,083	4,5	26,0
7,0	14,0	3,625	3,5	25,0	2,460	5,5	19,0	3,323	5,0	25,0
7,5	13,0	3,792	4,0	24,0	2,762	6,0	18,0	3,551	5,5	24,0
8,0	12,0	3,946	4,5	23,0	3,052	6,5	17,0	3,767	6,0	23,0
8,5	11,0	4,088	5,0	22,0	3,329	7,0	16,0	3,971	6,5	22,0
9,0	10,0	4,217	5,5	21,0	3,594	8,0	14,0	4,340	7,0	21,0
Ø 33,0			6,0	20,0	3,847	9,0	12,0	4,661	7,5	20,0
1,0	31,0	0,789	7,0	18,0	4,316	10,0	10,0	4,932	8,0	19,0
1,5	30,0	1,165	7,5	17,0	4,532	Ø 34,0			9,0	17,0
2,0	29,0	1,529	8,0	16,0	4,735	1,0	32,0	0,814	10,0	15,0
3,0	27,0	2,220	9,0	14,0	5,105	1,5	31,0	1,202	Ø 40,0	
3,5	26,0	2,546	10,0	12,0	5,426	2,0	30,0	1,578	0,5	39,0
4,0	25,0	2,861	Ø 38,0			2,5	29,0	1,942	1,0	38,0
5,0	23,0	3,453	1,0	36,0	0,912	3,0	28,0	2,294	1,25	37,5
6,0	21,0	3,995	1,5	35,0	1,350	3,5	27,0	2,633	1,5	37,0
7,0	19,0	4,488	2,0	34,0	1,776	4,0	26,0	2,959	2,0	36,0
Ø 36,0			2,5	33,0	2,189	4,5	25,0	3,274	2,5	35,0
1,0	34,0	0,863	2,8	32,4	2,431	5,0	24,0	3,576	3,0	34,0
1,5	33,0	1,276	3,0	32,0	2,589	6,0	22,0	4,143	3,5	33,0
2,0	32,0	1,677	3,5	31,0	2,978	7,0	20,0	4,661	4,0	32,0
2,5	31,0	2,065	4,0	30,0	3,354	8,0	18,0	5,130	4,5	31,0
3,0	30,0	2,441	4,5	29,0	3,718	10,0	14,0	5,919	4,75	30,5
3,5	29,0	2,805	5,0	28,0	4,069	Ø 37,0			5,0	30,0
4,0	28,0	3,157	5,5	27,0	4,408	1,0	35,0	0,888	5,5	29,0
4,5	27,0	3,496	6,0	26,0	4,735	1,5	34,0	1,313	6,0	28,0
5,0	26,0	3,823	6,5	25,0	5,049	2,0	33,0	1,726	7,0	26,0
5,5	25,0	4,137	7,0	24,0	5,352	2,5	32,0	2,127	7,5	25,0
6,0	24,0	4,439	8,0	22,0	5,919	3,0	31,0	2,515	8,0	24,0
6,5	23,0	4,729	9,0	20,0	6,437	3,5	30,0	2,892	9,0	22,0
7,0	22,0	5,006	10,0	18,0	6,905	4,0	29,0	3,255	10,0	20,0
8,0	20,0	5,524	12,0	14,0	7,694	5,0	27,0	3,946	12,5	15,0
9,0	18,0	5,993	Ø 41,0			6,0	25,0	4,587		
10,0	16,0	6,412	2,0	37,0	1,924					
12,0	12,0	7,103	3,0	35,0	2,811					
Ø 39,0										
1,5	36,0	1,387								
2,0	35,0	1,825								
3,0	33,0	2,663								

Epais.	Ø dia int.	kg/m	Epais.	Dia int. Ø	kg/m	Epais.	Dia int. Ø	kg/m	Epais.	Dia int. Ø	
Ø 42,0			Ø 48,0			Ø 54,0			Ø 60,0		
1,0	40,0	1,011	1,0	46,0	1,159	1,0	52,0	1,307	1,0	58,0	

1,5	39,0	1,498	1,5	45,0	1,720	1,5	51,0	1,942	1,5	57,0
2,0	38,0	1,973	2,0	44,0	2,269	2,0	50,0	2,565	2,0	56,0
2,5	37,0	2,435	2,5	43,0	2,805	2,5	49,0	3,175	2,5	55,0
3,0	36,0	2,885	3,0	42,0	3,329	3,0	48,0	3,773	3,0	54,0
3,5	35,0	3,323	3,5	41,0	3,841	3,5	47,0	4,359	3,5	53,0
4,0	34,0	3,749	4,0	40,0	4,340	4,0	46,0	4,932	4,0	52,0
4,5	33,0	4,162	4,5	39,0	4,827	4,5	45,0	5,493	4,5	51,0
5,0	32,0	4,562	5,0	38,0	5,302	5,0	44,0	6,042	5,0	50,0
6,0	30,0	5,327	5,5	37,0	5,765	6,0	42,0	7,103	5,5	49,0
7,0	28,0	6,042	6,0	36,0	6,215	7,0	40,0	8,114	6,0	48,0
8,0	26,0	6,708	7,0	34,0	7,078	10,0	34,0	10,851	6,5	47,0
9,0	24,0	7,324	8,0	32,0	7,892	Ø 55,0			7,0	46,0
10,0	22,0	7,892	9,0	30,0	8,656	1,0	53,0	1,332	7,5	45,0
11,0	20,0	8,410	10,0	28,0	9,371	1,5	52,0	1,979	8,0	44,0
Ø 43,0			12,0	24,0	10,654	2,0	51,0	2,614	8,5	43,0
1,5	40,0	1,535	Ø 50,0			2,5	50,0	3,237	9,0	42,0
2,0	39,0	2,022	1,0	48,0	1,208	3,0	49,0	3,847	10,0	40,0
4,0	35,0	3,847	1,5	47,0	1,794	3,5	48,0	4,445	12,0	36,0
Ø 44,0			2,0	46,0	2,368	4,0	47,0	5,031	15,0	30,0
1,0	42,0	1,060	2,5	45,0	2,929	4,5	46,0	5,604	Ø 62,0	
2,0	40,0	2,072	3,0	44,0	3,477	5,0	45,0	6,165	1,0	60,0
3,0	38,0	3,033	3,5	43,0	4,014	5,5	44,0	6,714	2,5	57,0
4,0	36,0	3,946	4,0	42,0	4,538	6,0	43,0	7,250	3,0	56,0
5,0	34,0	4,809	4,5	41,0	5,049	6,5	42,0	7,775	4,0	54,0
7,0	30,0	6,387	5,0	40,0	5,549	7,0	41,0	8,286	5,0	52,0
Ø 45,0			5,5	39,0	6,036	7,5	40,0	8,786	7,0	48,0
1,0	43,0	1,085	6,0	38,0	6,511	8,0	39,0	9,273	8,0	46,0
1,5	42,0	1,609	6,5	37,0	6,973	9,0	37,0	10,210	10,0	42,0
2,0	41,0	2,121	7,0	36,0	7,423	10,0	35,0	11,098	12,0	38,0
2,5	40,0	2,620	7,5	35,0	7,861	12,0	31,0	12,725	Ø 63,0	
3,0	39,0	3,107	8,0	34,0	8,286	Ø 56,0			1,0	61,0
3,5	38,0	3,582	9,0	32,0	9,100	1,0	54,0	1,356	1,5	60,0
4,0	37,0	4,044	10,0	30,0	9,865	1,5	53,0	2,016	2,0	59,0
4,5	36,0	4,495	12,5	25,0	11,560	2,0	52,0	2,663	2,5	58,0
5,0	35,0	4,932	15,0	20,0	12,947	2,5	51,0	3,298	3,0	57,0
5,5	34,0	5,358	Ø 51,0			3,0	50,0	3,921	3,5	56,0
6,0	33,0	5,771	1,5	48,0	1,831	3,5	49,0	4,532	4,0	55,0
6,5	32,0	6,172	1,75	47,5	2,126	4,0	48,0	5,130	5,0	53,0
7,0	31,0	6,560	2,0	47,0	2,417	5,0	46,0	6,289	6,0	51,0
7,5	30,0	6,936	2,5	46,0	2,990	8,0	40,0	9,470	8,0	47,0
8,0	29,0	7,300	3,0	45,0	3,551	Ø 57,0			9,0	45,0
9,0	27,0	7,990	4,0	43,0	4,636	1,0	55,0	1,381	10,0	43,0
10,0	25,0	8,632	5,0	41,0	5,672	1,5	54,0	2,053	Ø 64,0	
12,0	21,0	9,766	Ø 52,0			2,0	53,0	2,713	1,5	61,0
Ø 46,0			1,0	50,0	1,258	2,5	52,0	3,360	2,0	60,0
1,0	44,0	1,110	1,5	49,0	1,868	2,8	51,4	3,743	3,0	58,0
1,5	43,0	1,646	2,0	48,0	2,466	3,0	51,0	3,995	4,0	56,0
3,0	40,0	3,181	2,5	47,0	3,052	4,0	49,0	5,228	Ø 65,0	
4,0	38,0	4,143	3,0	46,0	3,625	4,5	48,0	5,826	1,0	63,0
5,0	36,0	5,056	3,5	45,0	4,186	5,0	47,0	6,412	1,5	62,0
6,0	34,0	5,919	4,0	44,0	4,735	6,0	45,0	7,546	2,0	61,0
8,0	30,0	7,497	4,5	43,0	5,271	Ø 58,0			2,5	60,0
Ø 47,0			5,0	42,0	5,795	1,0	56,0	1,406	3,0	59,0
1,0	45,0	1,134	5,5	41,0	6,307	1,5	55,0	2,090	3,5	58,0
1,5	44,0	1,683	6,0	40,0	6,807	2,0	54,0	2,762	4,0	57,0
2,0	43,0	2,220	7,0	38,0	7,768	2,5	53,0	3,422	5,0	55,0
3,0	41,0	3,255	8,0	36,0	8,681	3,0	52,0	4,069	6,0	53,0
3,5	40,0	3,755	10,0	32,0	10,358	3,5	51,0	4,704	7,0	51,0
Ø 67,0			12,0	28,0	11,838	4,0	50,0	5,327	7,5	50,0
1,5	64,0	2,423	Ø 53,0			5,0	48,0	6,535	8,0	49,0
2,0	63,0	3,206	1,0	51,0	1,282	6,0	46,0	7,694	9,0	47,0
3,0	61,0	4,735	1,5	50,0	1,905	7,0	44,0	8,804	10,0	45,0
Ø 66,0			2,0	49,0	2,515	8,0	42,0	9,865	12,5	40,0
1,5	63,0	2,386	3,0	47,0	3,699	9,0	40,0	10,876	15,0	35,0
3,0	60,0	4,661	4,0	45,0	4,834	10,0	38,0	11,838		
			5,0	43,0	5,919					

Epais.	Ø dia int.	kg/m	Epais.	Dia int. Ø	kg/m	Epais.	Dia int. Ø	kg/m	Epais.	Dia int. Ø	
Ø 68,0			Ø 76,0			Ø 87,0			Ø 102,0		
2,0	64,0	3,255	1,0	74,0	1,850	3,0	81,0	6,215	3,0	96,0	
3,0	62,0	4,809	1,5	73,0	2,756	Ø 88,0			3,5	95,0	
4,0	60,0	6,313	2,0	72,0	3,650	4,0	80,0	8,286	6,0	90,0	

5,0	58,0	7,768	2,5	71,0	4,532	6,0	76,0	12,133	Ø 104,0	
7,0	54,0	10,530	3,0	70,0	5,401	Ø 90,0		2,0	100,0	
8,0	52,0	11,838	4,0	68,0	7,103	1,0	88,0	2,195	Ø 105,0	
10,0	48,0	14,304	5,0	66,0	8,755	1,5	87,0	3,274	1,5	102,0
Ø 70,0			6,0	64,0	10,358	2,0	86,0	4,340	2,0	101,0
1,0	68,0	1,702	7,0	62,0	11,912	2,5	85,0	5,395	2,5	100,0
1,5	67,0	2,534	8,0	60,0	13,416	3,0	84,0	6,437	3,0	99,0
2,0	66,0	3,354	10,0	56,0	16,277	3,5	83,0	7,466	5,0	95,0
2,5	65,0	4,162	Ø 78,0			4,0	82,0	8,484	7,5	90,0
3,0	64,0	4,957	1,0	76,0	1,899	4,5	81,0	9,489	10,0	85,0
3,5	63,0	5,740	1,5	75,0	2,830	5,0	80,0	10,481	12,5	80,0
4,0	62,0	6,511	2,0	74,0	3,749	5,5	79,0	11,461	Ø 108,0	
4,5	61,0	7,269	3,0	72,0	5,549	6,0	78,0	12,429	2,0	104,0
5,0	60,0	8,015	4,0	70,0	7,300	7,0	76,0	14,328	2,5	103,0
5,5	59,0	8,749	5,0	68,0	9,001	7,5	75,0	15,259	3,0	102,0
6,0	58,0	9,470	6,0	66,0	10,654	8,0	74,0	16,178	3,5	101,0
7,0	56,0	10,876	Ø 80,0			9,0	72,0	17,978	4,0	100,0
7,5	55,0	11,560	1,0	78,0	1,948	10,0	70,0	19,729	5,0	98,0
8,0	54,0	12,232	1,5	77,0	2,904	12,0	66,0	23,083	7,0	94,0
9,0	52,0	13,539	2,0	76,0	3,847	15,0	60,0	27,744	8,0	92,0
10,0	50,0	14,797	2,5	75,0	4,778	Ø 92,0		Ø 110,0		
11,0	48,0	16,005	3,0	74,0	5,697	1,5	89,0	3,348	1,5	107,0
13,0	44,0	18,274	3,5	73,0	6,603	2,0	88,0	4,439	2,0	106,0
15,0	40,0	20,346	4,0	72,0	7,497	3,0	86,0	6,585	2,5	105,0
16,0	38,0	21,308	4,5	71,0	8,379	5,0	82,0	10,728	3,0	104,0
Ø 72,0			5,0	70,0	9,248	6,0	80,0	12,725	4,0	102,0
1,0	70,0	1,751	6,0	68,0	10,950	12,0	68,0	23,675	5,0	100,0
2,0	68,0	3,453	7,0	66,0	12,602	Ø 95,0			7,0	96,0
2,5	67,0	4,285	7,5	65,0	13,410	1,0	93,0	2,318	7,5	95,0
3,0	66,0	5,105	8,0	64,0	14,205	1,5	92,0	3,459	8,0	94,0
3,5	65,0	5,913	9,0	62,0	15,759	2,0	91,0	4,587	9,0	92,0
4,0	64,0	6,708	10,0	60,0	17,263	2,5	90,0	5,703	10,0	90,0
5,0	62,0	8,262	12,5	55,0	20,808	3,0	89,0	6,807	12,0	86,0
6,0	60,0	9,766	15,0	50,0	24,045	3,5	88,0	7,898	15,0	80,0
7,0	58,0	11,221	Ø 82,0			4,0	87,0	8,977	Ø 115,0	
8,0	56,0	12,627	1,0	80,0	1,998	4,5	86,0	10,043	2,0	111,0
9,0	54,0	13,983	4,0	74,0	7,694	5,0	85,0	11,098	2,5	110,0
10,0	52,0	15,290	5,0	72,0	9,495	6,0	83,0	13,169	4,0	107,0
Ø 73,0			6,0	70,0	11,246	7,0	81,0	15,191	5,0	105,0
1,5	70,0	2,645	Ø 83,0			7,5	80,0	16,184	6,0	103,0
2,5	68,0	4,347	1,5	80,0	3,015	8,0	79,0	17,164	7,5	100,0
Ø 74,0			2,0	79,0	3,995	9,0	77,0	19,088	10,0	95,0
2,0	70,0	3,551	3,0	77,0	5,919	10,0	75,0	20,962	12,5	90,0
3,0	68,0	5,253	3,5	76,0	6,862	12,5	70,0	25,432	15,0	85,0
Ø 75,0			4,0	75,0	7,793	15,0	65,0	29,594	Ø 120,0	
1,0	73,0	1,825	6,0	71,0	11,394	Ø 100,0			1,5	117,0
1,5	72,0	2,719	10,0	63,0	18,003	1,5	97,0	3,644	2,0	116,0
2,0	71,0	3,601	Ø 85,0			2,0	96,0	4,834	2,5	115,0
2,5	70,0	4,470	1,5	82,0	3,089	2,5	95,0	6,011	3,0	114,0
3,0	69,0	5,327	2,0	81,0	4,094	3,0	94,0	7,176	3,5	113,0
3,5	68,0	6,172	2,5	80,0	5,086	3,5	93,0	8,329	4,0	112,0
4,0	67,0	7,004	3,0	79,0	6,067	4,0	92,0	9,470	5,0	110,0
5,0	65,0	8,632	3,5	78,0	7,035	4,5	91,0	10,598	6,0	108,0
5,5	64,0	9,427	4,0	77,0	7,990	5,0	90,0	11,714	7,0	106,0
6,0	63,0	10,210	4,5	76,0	8,934	6,0	88,0	13,909	7,5	105,0
7,0	61,0	11,739	5,0	75,0	9,865	7,0	86,0	16,055	8,0	104,0
7,5	60,0	12,485	6,0	73,0	11,690	7,5	85,0	17,109	10,0	100,0
8,0	59,0	13,219	7,0	71,0	13,465	8,0	84,0	18,151	12,0	96,0
9,0	57,0	14,649	7,5	70,0	14,334	10,0	80,0	22,195	15,0	90,0
10,0	55,0	16,030	8,0	69,0	15,191	12,5	75,0	26,974	20,0	80,0
12,5	50,0	19,267	9,0	67,0	16,868	15,0	70,0	31,443		
15,0	45,0	22,195	10,0	65,0	18,496					
			12,5	60,0	22,349					
			15,0	55,0	25,895					

Epais.	Ø dia int.	kg/m	Epais.	Dia int. Ø	kg/m	Epais.	Dia int. Ø	kg/m	Epais.	Dia int. Ø
Ø 125,0			Ø 150,0			Ø 180,0			Ø 220,0	
2,0	121,0	6,067	2,0	146,0	7,300	2,5	175,0	10,944	5,0	210,0
2,5	120,0	7,553	2,5	145,0	9,094	3,0	174,0	13,095	10,0	200,0
3,0	119,0	9,026	3,0	144,0	10,876	5,0	170,0	21,579	15,0	190,0
4,0	117,0	11,936	4,0	142,0	14,402	10,0	160,0	41,925	Ø 230,0	
5,0	115,0	14,797	5,0	140,0	17,880	Ø 185,0			5,0	220,0

7,5	110,0	21,733	6,0	138,0	21,308	2,5	180,0	11,252	Ø 235,0	
10,0	105,0	28,361	7,5	135,0	26,357	5,0	175,0	22,195	5	225,0
12,5	100,0	34,680	10,0	130,0	34,526	Ø 190,0			Ø 240,0	
Ø 130,0			Ø 155,0			2,5	185,0	11,560	5,0	230,0
2,0	126,0	6,313	2,5	150,0	9,402	3,0	184,0	13,835	Ø 250,0	
2,5	125,0	7,861	5,0	145,0	18,496	4,0	182,0	18,348	4,0	242,0
3,0	124,0	9,396	10,0	135,0	35,759	5,0	180,0	22,812	5,0	240,0
4,0	122,0	12,429	Ø 156,0			10,0	170,0	44,391	Ø 260,0	
5,0	120,0	15,413	3,0	150,0	11,320	Ø 195,0			5,0	250,0
7,5	115,0	22,658	Ø 160,0			2,5	190,0	11,868	Ø 300,0	
10,0	110,0	29,594	2,5	155,0	9,710	5,0	185,0	23,428	4,0	292,0
12,5	105,0	36,222	3,0	154,0	11,616	7,5	180,0	34,680	5,0	290,0
15,0	100,0	42,541	4,0	152,0	15,389	Ø 200,0			10,0	280,0
Ø 135,0			5,0	150,0	19,113	3,0	194,0	14,575		
2,5	130,0	8,169	8,0	144,0	29,988	3,5	193,0	16,961		
3,0	129,0	9,766	10,0	140,0	36,992	4,0	192,0	19,335		
5,0	125,0	16,030	Ø 165,0			5,0	190,0	24,045		
7,5	120,0	23,583	2,5	160,0	10,019	10,0	180,0	46,857		
10,0	115,0	30,827	5,0	155,0	19,729	12,5	175,0	57,800		
Ø 140,0			7,5	150,0	29,131	Ø 210,0				
2,0	136,0	6,807	Ø 170,0			3,0	204,0	15,315		
2,5	135,0	8,477	2,5	165,0	10,327	5,0	200,0	25,278		
3,0	134,0	10,136	3,0	164,0	12,355	10,0	190,0	49,323		
4,0	132,0	13,416	4,0	162,0	16,375	Ø 215,0				
5,0	130,0	16,647	5,0	160,0	20,346	7,5	200,0	38,379		
6,0	128,0	19,828	6,0	158,0	24,267	12,5	190,0	62,424		
7,5	125,0	24,507	10,0	150,0	39,458					
10,0	120,0	32,060	15,0	140,0	57,338					
12,5	115,0	39,304	Ø 175,0							
Ø 145,0			2,5	170,0	10,635					
2,5	140,0	8,786	3,0	169,0	12,725					
5,0	135,0	17,263	5,0	165,0	20,962					
8,0	129,0	27,029								
10,0	125,0	33,293								

kg/m
0,179
0,264
0,345
0,499
0,641
0,771
0,888
0,993
1,040
1,085
1,165
1,233
0,191
0,370
0,536
0,630
0,691
0,832
0,962
1,079
1,184
1,276
1,356
1,480
0,203
0,395
0,573
0,740
0,894
1,036
1,165
1,282
1,480
0,265
0,393
0,518
0,758
0,897
0,986
1,074
1,202
1,326
1,406
1,597
1,776
1,942
2,096
2,238
2,368
2,428
2,485
2,589
2,762

kg/m

0,641
0,943
1,233
1,511
1,776
2,028
2,269
2,497
2,713
3,107
3,453
0,376
0,740
1,091
1,430
1,757
2,072
2,941
0,425
0,675
0,838
1,239
1,628
2,004
2,368
2,719
3,058
3,385
3,699
4,001
4,291
4,569
4,834
5,086
5,327
5,771
6,165
0,487
0,962
1,195
1,424
1,874
2,312
2,737
3,15
3,551
3,91
4,129
4,316
4,68
4,031
5,697
6,011
6,313
6,882
7,4
8,477

kg/m
1,455

2,164
2,861
3,545
4,217
4,877
5,524
6,159
6,782
7,392
7,990
8,576
9,149
9,710
10,259
10,796
11,320
12,331
14,205
16,647
1,504
3,668
4,365
5,721
7,029
9,495
10,654
12,824
14,797
1,529
2,275
3,009
3,730
4,439
5,136
5,820
7,152
8,434
10,851
11,985
13,071
2,312
3,058
4,513
5,919
1,578
2,349
3,107
3,853
4,587
5,308
6,017
7,398
8,730
10,013
10,635
11,246
12,429
13,564
16,184
18,496

kg/m
7,324
8,502
14,205

5,031
3,829
5,080
6,320
7,546
12,331
18,034
23,428
28,515
5,228
6,504
7,768
9,020
10,259
12,701
17,436
19,729
4,014
5,327
6,628
7,916
10,456
12,947
17,781
18,959
20,124
22,417
24,662
29,002
35,143
5,573
6,936
10,950
13,564
16,129
19,883
25,895
31,598
36,992
4,384
5,820
7,244
8,656
10,056
11,443
14,180
16,868
19,507
20,808
22,097
27,128
31,961
38,842
49,323

kg/m
26,511
51,789
75,834
27,744

28,361
28,976
24,267
30,209
31,443
29,199
36,376
71,518