

1CSC

PRECISION TUBES & PROFILES

LASER METAL PROCESSING

STEEL SERVICE CENTER

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QUALITY AND PACKAGING

In case of requirements for other mechanical and chemical properties it is necessary to consult with the production department. Other deviations are possible upon mutual approval.

Quality designation		Without heat treatment		Soft annealed		Normalized		
		+ CR 1		+ A		+ N		
grade	numerical designation	tensile strength R_m [MPa]	elongation A [%]	tensile strength R_m [MPa]	elongation A [%]	upper yield point R_{eH} [MPa]	tensile strength R_m [MPa]	elongation A [%]
E 155	1.0033	290	15	260	28	155	270 - 410	28
E 195	1.0034	330	8	290	28	195	330 - 440	28
E 235	1.0308	390	7	315	25	235	340 - 480	25
E 275	1.0225	440	6	390	21	275	410 - 550	21
E 355	1.0580	540	5	450	22	355	490 - 630	22

Quality designation		CR 2		
grade	numerical designation	upper yield point R_{eH} [MPa]	tensile strength R_m [MPa]	elongation A [%]
E 190	1.0031	190	270	26
E 220	1.0215	220	310	23
E 260	1.0220	260	340	21
E 320	1.0237	320	410	19
E 370	1.0261	370	450	15
E 420	1.0575	420	490	12

Cold Calibrated Welded Tubes	
Dimensional standards	EN 10305-3 DIN 2394-1
Technical delivery conditions	ČSN EN 10305-5 DIN 2394-2
Cold calibrated welded square and rectangular profiles	
Dimensional standards	EN 10305-5 EN 10219
Technical delivery conditions	EN 10305-5 EN 10219 DIN 2395-3

Design	Symbols	Description
Cold welded and calibrated	+ CR 1	The tubes are usually not heat treated but are suitable for final soft annealing.
	+ CR 2	After welding and calibration, the tubes are not intended for heat treatment.
Soft annealed	+ A	After welding and calibration, the pipes are soft annealed in a controlled atmosphere.
Normalized	+ N	After welding and calibration, the pipes are normalized in a controlled atmosphere. These delivery conditions can be achieved by a direct process.

Surface condition	
According to standards EN 10305-3, EN 10305-5	
S2	pickled
S3	cold rolled
S4	lined according to the agreed conditions

Packaging	
Hexagon	Ø 600 mm
Quadrangle	600 × 600 mm, with wood 550 × 550 mm
Glitterbox	

Production lengths	
Standard production lengths	5 000 - 8 500 mm
Non-standard production lengths	3 500 - 4 990 mm, 8 550 - 14 500 mm
Precision lengths on Rattunde saws*	150 - 3 500 mm

* Precision cutting including washing, drying and deburring (from 150mm)

Tolerance lengths	
Production of long profiles and tubes	+/- 5 mm
Production of precise lengths on saws	+/- 0.2 mm

Minimal values are shown in the table


In case of requirements for other mechanical and chemical properties it is necessary to consult with the production department.

Depending on the degree of cold forming of the strip and the calibration of the welded pipe, the values of the significant yield point can be almost as high as the tensile strength. For calculation purposes, values of the upper yield point $R_{eH} \geq 0.7 \cdot R_m$ for the delivery state + CR1 are recommended.

The elongation in percentage A refers to the measured length L_0 of $5.65 \sqrt{S_0}$.


If non-proportional test pieces are used, the tensile value in percentage A shall be converted to a value for the measured length $L_0 = 5.65 \sqrt{S_0}$ using the conversion tables given in EN ISO 2566-1.


The tubes are manufactured in accordance with the standards ČSN EN 10 305-3 and EN 10219. Trimming of the internal root of weld for cold strips is in the range of 0/+0.2mm, and for warm strips in the range of 0/+0.3 mm. In the case of using a hot strip with a narrowed tolerance, the inner root of weld is trimmed within a range of 0/+0.2 mm. We do not cut pipes and profiles made of galvanized strips. The strength of the weld cannot be guaranteed in the case of a requirement to trim the root of weld to a minus tolerance. Root of weld values without trimming: wall thickness up to 1.3 mm root of weld height up to 0.5 mm without trimming, wall thickness up to 2 mm root of weld height up to 0.8 mm without trimming. Above 2 mm height of the root of weld according to the standard (i.e. 2/3 of the wall thickness).

Outer diameter (mm)	Wall thickness (mm)							
	0.8	1	1.2	1.5	1.8	2	2.5	3
ROUND TUBES 	Specific weight (kg/m)							
14	0.260	0.320	0.379	0.462	0.542	0.592		
15	0.280	0.345	0.408	0.499	0.586	0.641		
16	0.300	0.370	0.438	0.536	0.630	0.691		
17.8	0.335	0.414	0.491	0.603	0.71	0.771		
18	0.339	0.419	0.497	0.610	0.719	0.815		
19	0.359	0.444	0.527	0.647	0.763	0.882		
19.1	0.361	0.446	0.53	0.651	0.768	0.887		
20	0.379	0.469	0.556	0.684	0.808	0.888	1.079	
21.3	0.406	0.503	0.598	0.736	0.870	0.957	1.160	
22	0.418	0.518	0.616	0.758	0.897	0.986	1.203	
22.2	0.422	0.523	0.622	0.766	0.906	0.996	1.215	
23	0.438	0.543	0.645	0.795	0.941	1.036	1.264	
24	0.458	0.567	0.675	0.832	0.985	1.085	1.326	
24.8	0.474	0.587	0.698	0.862	1.021	1.125	1.375	
25	0.477	0.592	0.704	0.869	1.030	1.130	1.380	
25.4	0.485	0.602	0.716	0.884	1.048	1.154	1.412	
26	0.497	0.616	0.734	0.906	1.070	1.180	1.440	
27	0.517	0.641	0.763	0.943	1.110	1.230	1.510	1.795
28	0.536	0.666	0.768	0.980	1.160	1.280	1.570	1.878
28.4	0.545	0.676	0.805	0.995	1.181	1.302	1.597	1.879
28.6	0.548	0.681	0.811	1.002	1.19	1.312	1.609	1.894
29.7	0.57	0.708	0.843	1.043	1.239	1.366	1.677	1.975
30		0.715	0.852	1.050	1.250	1.380	1.700	2.028
31.8		0.759	0.906	1.113	1.332	1.471	1.799	2.164
32		0.764	0.912	1.120	1.340	1.480	1.810	2.178
33.3		0.801	0.956	1.184	1.407	1.554	1.911	2.256
33.7		0.806	0.962	1.191	1.416	1.564	1.924	2.306
34		0.814	0.971	1.200	1.430	1.570	1.940	2.323
35		0.838	1.000	1.240	1.470	1.630	2.000	2.404
38		0.912	1.090	1.350	1.610	1.780	2.190	2.629
38.1		0.915	1.092	1.354	1.611	1.781	2.195	2.597
39.8		0.962	1.150	1.420	1.700	1.870	2.310	2.510
40		0.962	1.150	1.420	1.700	1.870	2.310	2.510
41		0.987	1.178	1.462	1.741	1.924	2.375	2.698
41.5		0.999	1.190	1.480	1.760	1.940	2.400	2.850
42		1.017	1.215	1.507	1.795	1.985	2.450	2.903
42.4		1.025	1.22	1.515	1.805	1.995	2.465	2.925
43			1.232	1.530	1.823	2.015	2.490	2.954
44.5		1.073	1.282	1.591	1.896	2.097	2.590	3.080
45		1.073	1.282	1.591	1.896	2.097	2.590	3.080
48		1.150	1.380	1.720	2.050	2.270	2.800	3.330
48.3		1.166	1.394	1.731	2.064	2.284	2.824	3.351
49.8		1.201	1.435	1.783	2.126	2.353	2.91	3.455
50		1.210	1.440	1.790	2.140	2.370	2.930	3.480
50.8				1.790	2.140	2.370	2.930	3.480
52		1.258	1.504	1.869	2.229	2.467	3.053	3.630

TUBES | PROFILES A × A


The tubes are manufactured in accordance with the standards ČSN EN 10 305-3 (Round tubes), ČSN EN 10 305-5 (Profile tubes) and EN 10219. Trimming of the internal root of weld for cold strips is in the range of 0/+0.2 mm, and for warm strips in the range of 0/+0.3 mm. In the case of using a hot strip with a narrowed tolerance, the inner root of weld is trimmed within a range of 0/+0.2 mm. We do not cut pipes and profiles made of galvanized strips. The strength of the weld cannot be guaranteed in the case of a requirement to trim the root of weld to a minus tolerance. Root of weld values without trimming: wall thickness up to 1.3 mm, height of root of weld up to 0.5 mm without trimming, wall thickness up to 2 mm root of weld height up to 0.8 mm without trimming. Above 2 mm height of the root of weld according to the standard (i.e. 2/3 of the wall thickness).

Outer diameter (mm)	Wall thickness (mm)							
	0.8	1	1.2	1.5	1.8	2	2.5	3
ROUND TUBES 	Specific weight (kg/m)							
54		1.300	1.560	1.940	2.310	2.560	3.170	3.780
55		1.341	1.621	2.016	2.396	2.656	3.291	3.930
57			1.650	2.050	2.450	2.710	3.360	4.000
57.5			1.666	2.072	2.473	2.737	3.391	4.032
58			1.681	2.09	2.495	2.762	3.422	4.069
59.2			1.716	2.134	2.548	2.821	3.496	4.158
59.5			1.725	2.146	2.561	2.836	3.514	4.18
60			1.740	2.160	2.580	2.860	3.550	4.220
60.5				2.183	2.606	2.885	3.576	4.254
63.5				2.29	2.74	3.03	3.76	4.48
64				2.312	2.761	3.058	3.792	4.513
65				2.349	2.805	3.107	3.853	4.587
68				2.460	2.939	3.255	4.038	4.809
68.3				2.471	2.952	3.270	4.057	4.831
70				2.719	3.250	3.601	4.470	5.330
76				2.76	3.298	3.655	4.538	5.408
76.1				2.763	3.303	3.66	4.544	5.416
76.2				2.908	3.462	3.846	4.776	5.700
80				2.9	3.47	3.85	4.78	5.7
89				3.24	3.87	4.291	5.333	6.363
90						4.340	5.390	6.440
101						4.900	6.030	7.110

Outer dimension A × A (mm)	Wall thickness (mm)							
	0.8	1	1.2	1.5	1.8	2	2.5	3
SQUARE TUBES 	Specific weight (kg/m)							
15 × 15		0.444	0.527	0.647				
16 × 16		0.469	0.555	0.679				
18 × 18		0.513	0.616	0.758	0.897	0.986		
19 × 19		0.553	0.660	0.814	0.964	1.058		
20 × 20		0.592	0.704	0.869	1.030	1.130		
22 × 22		0.666	0.763	0.980	1.160	1.280		
22 × 22 R6		0.592	0.704	0.869	1.030	1.130		
22.5 × 22.5		0.673	0.800	0.985	1.165	1.281		
25 × 25		0.764	0.912	1.120	1.340	1.480		
25.4 × 25.4		0.764	0.912	1.120	1.340	1.480		
26 × 26		0.777	0.927	1.143	1.362	1.505		
30 × 30		0.912	1.090	1.350	1.610	1.780	2.200	
30 × 30 R6			1.090	1.350	1.610	1.780	2.200	
34 × 34			1.234	1.527	1.815	2.002		
35 × 35			1.300	1.610	1.920	2.120	2.620	3.080
40 × 40			1.440	1.790	2.140	2.370	2.930	3.550
45 × 45			1.649	2.050	2.450	2.710	3.360	3.990
50 × 50			1.858	2.312	2.761	3.058	3.792	4.440
55 × 55				2.530	3.030	3.350	4.160	4.898
60 × 60				2.750	3.290	3.650	4.530	5.400
70 × 70				3.223	3.849	4.264	5.288	


PROFILES A × B

The profiles are manufactured in accordance with the standards ČSN EN 10 305-5 and EN 10219. Trimming of the internal root of weld for cold strips is in the range of 0/+0.2 mm, and for warm strips in the range of 0/+0.3 mm. In the case of using a hot strip with a narrowed tolerance, the inner root of weld is trimmed within a range of 0/+0.2 mm. We do not cut pipes and profiles made of galvanized strips. The strength of the weld cannot be guaranteed in the case of a requirement to trim the root of weld to a minus tolerance. Root of weld values without trimming: wall thickness up to 1.3 mm root of weld height up to 0.5 mm without trimming, wall thickness up to 2 mm root of weld height up to 0.8 mm without trimming. Above 2 mm height of the root of weld according to the standard (i.e. 2/3 of the wall thickness).

Outer dimension A × B (mm)	Wall thickness (mm)							
	0.8	1	1.2	1.5	1.8	2	2.5	3
SQUARE TUBES 	Specific weight (kg/m)							
20 × 10		0.444	0.527	0.647				
20 × 15		0.513	0.616	0.758	0.910	0.986		
25 × 10		0.518	0.616	0.758	0.897			
25.4 × 12.7		0.543	0.645	0.795	0.941	1.036		
25 × 15		0.602	0.716	0.884	1.048	1.154		
25 × 20		0.666	0.793	0.980	1.160	1.280		
30 × 10		0.602	0.716	0.884	1.048	1.154		
30 × 15		0.681	0.811	1.002	1.190	1.312		
30 × 18		0.721	0.857	1.056	1.249	1.375		
30 × 20		0.764	0.912	1.120	1.340	1.480		
30 × 25		0.838	1.000	1.240	1.470	1.630		
30.5 × 27.5								
34 × 16								
34 × 20		0.815	0.970	1.197	1.419	1.563		
35 × 10		0.666	0.793	0.980	1.160	1.280		
35 × 15		0.764	0.912	1.120	1.340	1.480		
35 × 20		0.838	1.000	1.240	1.470	1.630		
35 × 23								
35 × 25		0.912	1.090	1.350	1.610	1.780		
35 × 30		0.987	1.177	1.456	1.730	1.909		
35 × 27								
38 × 18		0.853	1.018	1.263	1.497	1.660		
38 × 30		1.040	1.230	1.506	1.810	2.000		
40 × 10		0.764	0.912	1.120	1.340			
40 × 15		0.832	0.991	1.225	1.453	1.601		
40 × 20		0.912	1.090	1.350	1.610	1.780		
40 × 22		0.962	1.140	1.425	1.696	1.875		
40 × 25		1.010	1.200	r	1.780	1.970		
40 × 30		1.090	1.300	1.610	1.920	2.120	2.620	
40 × 35		1.150	1.380	1.720	2.050	2.270	2.800	
43 × 12								
44 × 24								
44 × 25								


PROFILES A × B


The profiles are manufactured in accordance with the standards ČSN EN 10 305-5 and EN 10219. Requests for reduced tolerances must first be consulted with the production department. For internal dimension requirements, OK and NOK calibres must be supplied. With regard to the wall thickness tolerance according to quality. Trimming of the internal root of weld: cold strip 0/+0.2 | warm strip 0/0.3. When using hot strips with a narrowed tolerance of 0/+0.2. Galvanized parts are not cut. The strength of the weld cannot be guaranteed when cutting to minus. Wall thickness up to 1.3 mm root of weld height up to 0.5 mm without trimming.

Outer dimension A × B (mm)	Wall thickness (mm)							
	0.8	1	1.2	1.5	1.8	2	2.5	3
SQUARE TUBES 	Specific weight (kg/m)							
45 × 20		0.987	1.177	1.456	1.730	1.909		
45 × 25		1.090	1.300	1.610	1.920	2.120		
45 × 35		1.223	1.460	1.810	2.154	2.380		
45 × 40		1.301	1.554	1.927	2.295	2.537	3.129	3.706
48 × 20		1.035	1.233	1.527	1.814	2.003		
49 × 24								
50 × 10		0.912	1.090	1.350	1.610			
50 × 15							2.345	
50 × 20		1.090	1.300	1.610	1.920	2.120		
50 × 25		1.150	1.380	1.720	2.050	2.270		
50 × 30		1.210	1.440	1.790	2.140	2.370		
50 × 40		1.380	1.650	2.050	2.450	2.710	3.360	3.990
55 × 45			1.858	2.312	2.761	3.058	3.792	
58 × 42								
60 × 10			1.300	1.610	1.920			
60 × 15		1.150	1.380	1.720	2.050	2.270		
60 × 20		1.210	1.440	1.790	2.140	2.370		
60 × 25		1.301	1.554	1.927	2.295	2.537	3.237	
60 × 30		1.393	1.666	2.072	2.473	2.737	3.360	3.990
60 × 35		1.458	1.742	2.163	2.578	2.851		
60 × 40		1.533	1.820	2.270	2.710	3.010	3.730	
60 × 43								
60 × 45		1.620	1.930	2.397	2.861	3.160	3.910	4.650
60 × 46		1.630	1.950	2.421	2.893	3.202	3.948	4.690
60 × 50		1.697	2.010	2.530	3.030	3.350	4.160	4.982
62 × 10								
63.5 × 35.1		1.515	1.810	2.248	2.679	2.964		
63.5 × 38.1		1.548	1.831	2.350	2.800	3.100		
65 × 45		1.688	2.020	2.530	3.030	3.320		
70 × 10		1.207	1.504	1.869	2.229			
70 × 11		1.210	1.440	1.790	2.140			
70 × 20				2.053	2.45	2.713		
70 × 25		1.452	1.740	2.160	2.580	2.860		
70 × 30			1.858	2.312	2.761	3.058		
70 × 40			2.025	2.516	3.001	3.322	4.111	4.957
70x50 R4,2			2,213					
70 × 50			2.213	2.752	3.284	3.636	4.503	5.369
80 × 15			1.740	2.160	2.580	2.860		
80 × 30			2.025	2.516	3.001	3.322	4.111	
80 × 40			2.213	2.752	3.284	3.636	4.503	
80 × 50				3.010	3.600	3.990	4.960	
80 × 60				3.223	3.849	4.264	5.288	
88.9 × 38.1				2.924	3.473	3.849	4.782	
100 × 30				2.987	3.567	3.950	4.896	
110 × 30				3.223	3.849	4.264	5.288	

FLAT OVAL | TUNNEL | TRIANGLE


We produce the profiles according to the standard ČSN EN 10 305-5. Trimming of the internal root of weld for cold strips is in the range of 0/+0.2mm, and for warm strips in the range of 0/+0.3 mm. In the case of using a hot strip with a narrowed tolerance, the inner root of weld is trimmed within a range of 0/+0.2 mm. We do not cut galvanized tubes and profiles. The strength of the weld cannot be guaranteed in the case of trimming the root of weld to a minus. For wall thickness up to 1.3 mm the height of the root of weld is up to 0.5 mm without trimming, for wall thickness up to 2 mm the height of the root of weld is up to 0.8 mm without trimming. Above 2 mm height of the root of weld according to the standard (i.e. 2/3 of the wall thickness).







Outer dimension A × A (mm)	Wall thickness (mm)						
	0.8	1	1.2	1.5	1.8	2	2.5
OVAL TUBULAR SECTIONS 	Specific weight (kg/m)						
20 × 10		0.370	0.438	0.536			
25 × 7	0.348	0.431	0.511				
25 × 10	0.370	0.414	0.457	0.543	0.788		
25 × 12	0.385	0.476	0.565	0.695	0.884	0.927	
30 × 14	0.477	0.592	0.704	0.869	1.030	1.130	
30 × 15	0.477	0.592	0.704	0.869	1.030	1.130	
30 × 20	0.497	0.616	0.734	0.906	1.070	1.180	
32 × 18		0.608	0.724	0.894	1.059	1.167	
30 × 25		0.840	1.000	1.240	1.435	1.630	
33 × 16		0.637	0.758	0.937	1.110	1.224	
34 × 15		0.641	0.763	0.943	1.120	1.230	
34 × 16		0.666	0.793	0.980	1.163	1.283	
35 × 15		0.666	0.793	0.980	1.163	1.283	
37 × 20		0.735	0.877	1.085	1.288	1.422	
38 × 20		0.764	0.912	1.120	1.340	1.480	1.810
38.1 × 20.1		0.764	0.912	1.120	1.340	1.480	1.810
40 × 14		0.764	0.912	1.120	1.340	1.480	
40 × 20		0.789	0.941	1.160	1.380	1.520	1.880
40 × 30		0.872	1.041	1.290	1.534	1.695	2.088
45 × 25		0.906	1.081	1.340	1.595	1.762	2.172
48 × 20		0.912	1.090	1.350	1.610	1.780	2.190
50 × 10		0.863	1.030	1.270	1.510	1.670	
50 × 20		0.940	1.122	1.391	1.656	1.830	2.256
50 × 25		1.010	1.200	1.490	1.780	1.970	2.430
50 × 30		1.036	1.237	1.536	1.829	2.023	2.498
60 × 10.4		0.987	1.178	1.462	1.741	1.924	
60 × 20		1.097	1.310	1.626	1.930	2.144	2.650
60 × 30		1.186	1.418	1.761	2.100	2.323	2.873
63 × 51		1.421	1.700	2.114	2.523	2.794	3.461
70 × 8		1.146	1.369	1.701			
70 × 11		1.210	1.440	1.790	2.140		
74 × 20		1.300	1.560	1.940	2.310	2.560	
80 × 25		1.667	1.740	2.160	2.580	2.860	
80 × 30		1.500	1.794	2.232	2.665	2.951	

Outer dimension B × A (mm)	Wall thickness (mm)						
	0.8	1	1.2	1.5	1.8	2	2.5
SEMIOVAL TUBULAR SECTIONS 	Specific weight (kg/m)						
40 × 30			1.148	1.425	1.696	1.875	
35 × 30			1.09	1.35	1.61	1.78	
35 × 41			1.232	1.525	1.811	1.999	
55 × 35				1.872	2.233	2.471	










SPECIAL SHAPES

For special profiles outside normal dimensional and shape standards, it is necessary to send drawing documentation or contact the technology department.

Outer dimension B × A × C (mm)	Wall thickness (mm)						
	0.8	1	1.2	1.5	1.8	2	2.5
TRIANGLE 	Specific weight (kg/m)						
30 × 30 × 20		0.596	0.709	0.875	1.037	1.142	
40 × 40 × 22			0.948	1.174	1.395	1.540	
45 × 45 × 45			1.078	1.336	1.590	1.757	
56 × 34 × 34 (34×56×56)			1.410	1.752	2.089	2.311	
74,6 × 55 × 55				2.13	2.543	2.815	

Dimensions (mm)	SHAPE	Wall thickness (mm)								
		0.8	1	1.2	1.5	1.8	2	2.25	2.5	3
SPECIAL SHAPES		Specific weight (kg/m)								
v. tube 20 × 15					0.662					
32 × 18 (ellipse)			0.608	0.724	0.894	1.059	1.167			
30 × 20 (ellipse)			0.593	0.705	0.870					
35 × 35 one-sided hollowed out			0.987	1.178	1.462	1.741	1.924		2.375	3.810
50 × 25 (ellipse)				1.110	1.370	1.630	1.800			
50 × 35 one-sided hollowed out			1.258	1.504	1.869	2.229	2.467		3.053	3.630
60 × 60 R120				1.953						
Trapezoid 40 × 12										
Trapezoid 60 × 12				1.25757						

PLASTIC WINDOW REINFORCEMENTS | PACKAGING

Dimension A × B (mm)	Use for system	Profile drawing	Code	Wall thickness (mm)					
				1.5	1.8	2	2.25	2.5	3
				Production options					
45 × 45	Deceuninck		3223	2.050	2.450	2.710		3.360	3.990
65 × 45	Veka		113.286.3	2.530	3.030	3.320		4.110	4.846
60 × 45	Salamandr		415054-74 Profile thickness 2 mm	2.397	2.2861	3.160		3.910	4.650
60 × 45	Salamandr		415045-73 Profile thickness 1.5 mm	2.397	2.861	3.160		3.910	4.650
35 × 27	Salamandr		455235-74 Profile thickness 2 mm	1.406	1.678	1.856		2.286	2.706
35 × 27	Salamandr		455235-73 Profile thickness 1.5 mm	1.406	1.678	1.856		2.286	2.706
50 × 40	Aluplast		229125	2.050	2.450	2.710		3.360	3.990
50 × 40	Schuco		201034	2.050	2.450	2.710		3.360	3.990
55 × 45	Deceuninck		15961	2.312	2.761	3.058		3.792	4.440
60 × 40	Roplasto, Trocal, Kbe, Thyssen		801430	2.270	2.710	3.010		3.730	4.475
60 × 46	Gealan		8736	2.421	2.893	3.202		3.948	4.690
58 × 42	Gealan		3736	2.280	2.720	3.010		3.730	4.475
30 × 30	Veka		113025	1.350	1.610	1.780		2.200	2.590
30 × 30	Aluplast		229112	1.350	1.610	1.780		2.200	2.590
30 × 30	Kbe		634	1.350	1.610	1.780		2.200	2.590



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