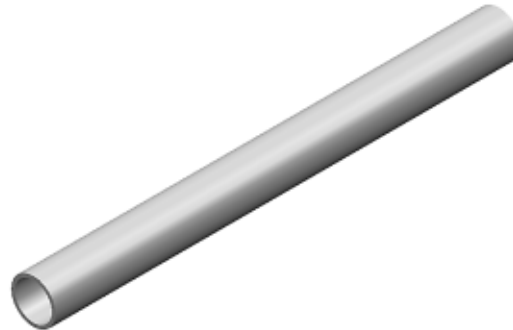


## 6.5 Cross Tube Ø38 mm

Material: Aluminum

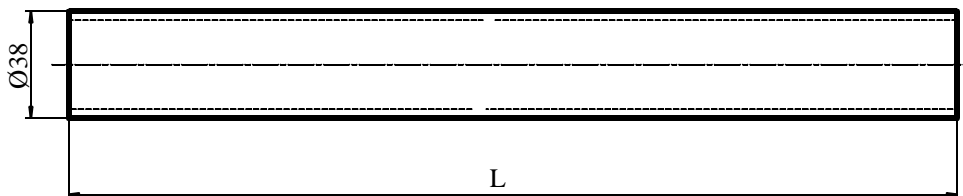


Thickness = 3 mm.

Length	Part No.	Weight
500 mm	9936324	375 g
750 mm	9936325	560 g
1000 mm	9936326	750 g
1500 mm	9936327	1125 g
2000 mm	91206682	1500 g
3000 mm	91206981	2250 g
6000 mm	8101145	4500 g

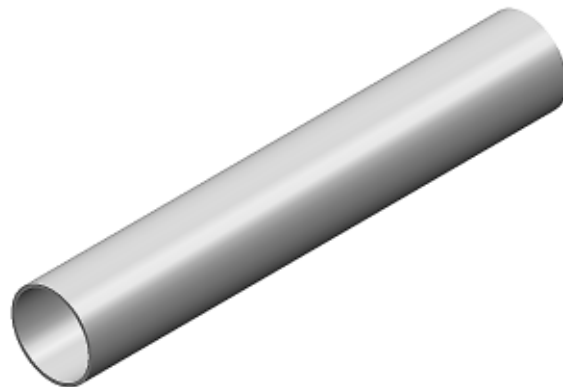
Thickness = 5 mm.

Length	Part No.	Weight
500 mm	91108321	700 g
750 mm	91108322	1050 g
1000 mm	91108323	1400 g
1500 mm	91108324	2100 g
2000 mm	91111291	2800 g
3000 mm	91111292	4200 g
6000 mm	8053730	8400 g



## 6.6 Central Tube Ø76 mm

Material: Aluminum



Thickness = 3 mm.

Length	Part No.	Weight
650 mm	9936318	1200 g
1250 mm	9936319	2310 g
1500 mm	9936320	2775 g
1750 mm	9936321	3240 g
2000 mm	9936322	3700 g
2150 mm	9936323	3980 g
6000 mm	8101144	11100 g

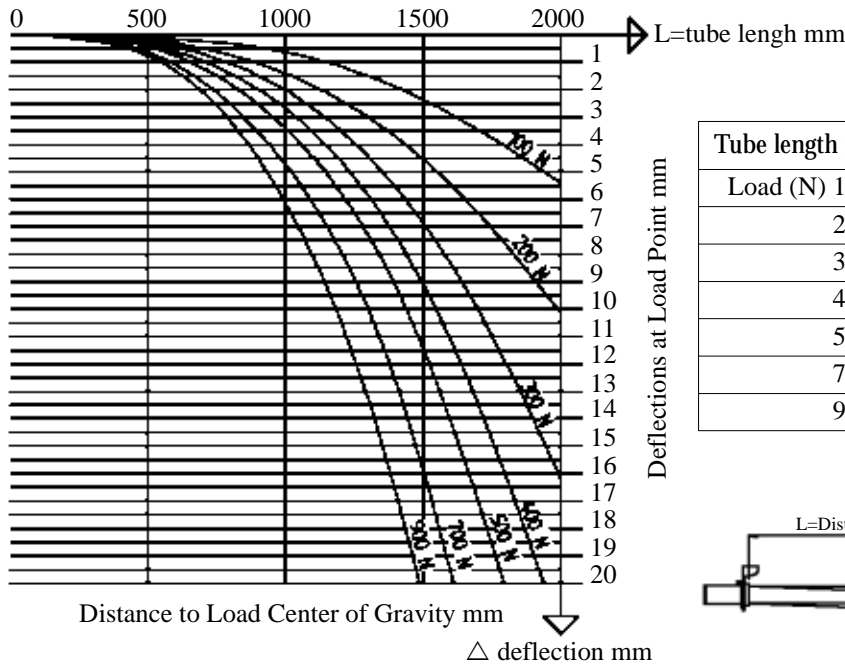
Thickness = 5 mm.

Length	Part No.	Weight
650 mm	91108325	1960 g
1250 mm	91108326	3760 g
1500 mm	91108327	4510 g
1750 mm	91108328	5270 g
2000 mm	91108329	6020 g
2150 mm	91108330	6470 g
6000 mm	8101148	18040 g



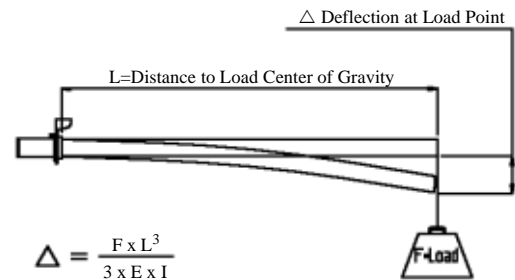
## 6.7 Deflection charts Ø76 tube

Aluminum Tube Outer diameter D = 76 mm  
Inner diameter d = 66 mm



Deflection in mm

Tube length mm	500	1000	1500	2000
Load (N) 100 N	-	1	2	5
200 N	-	1	5	11
300 N	-	2	7	16
400 N	-	3	9	22
500 N	-	3	11	27
700 N	1	5	16	38
900 N	1	6	21	49



$$\Delta = \frac{F \times L^3}{3 \times E \times I}$$

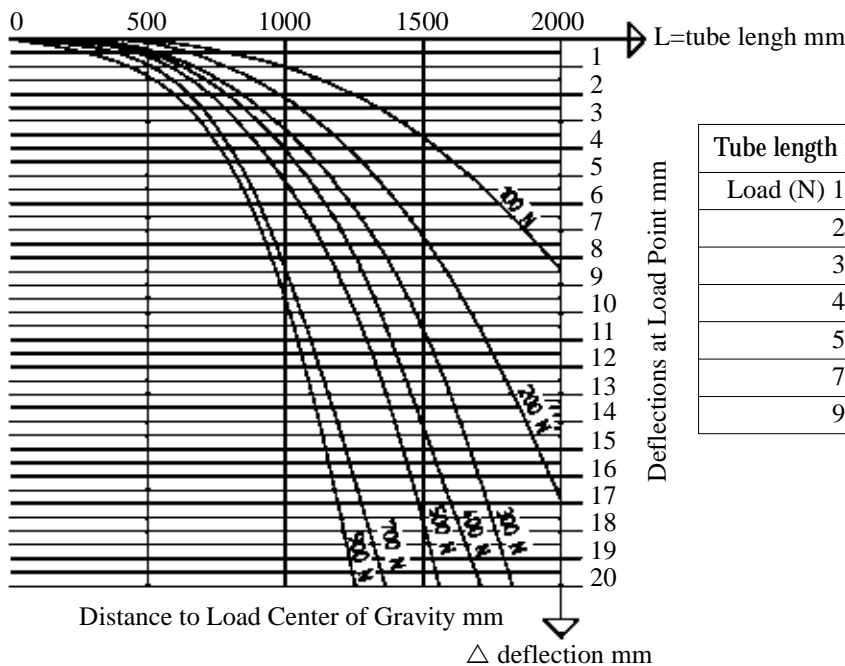
F = Load (N)

L = Length mm

E = Modulus of elasticity  $6,9 \times 10^3 \text{ N/mm}^2$

I = Moments of inertia  $\frac{\pi (D^4 - d^4)}{64} \text{ mm}^4$

Aluminum Tube Outer diameter D = 76 mm  
Inner diameter d = 70 mm



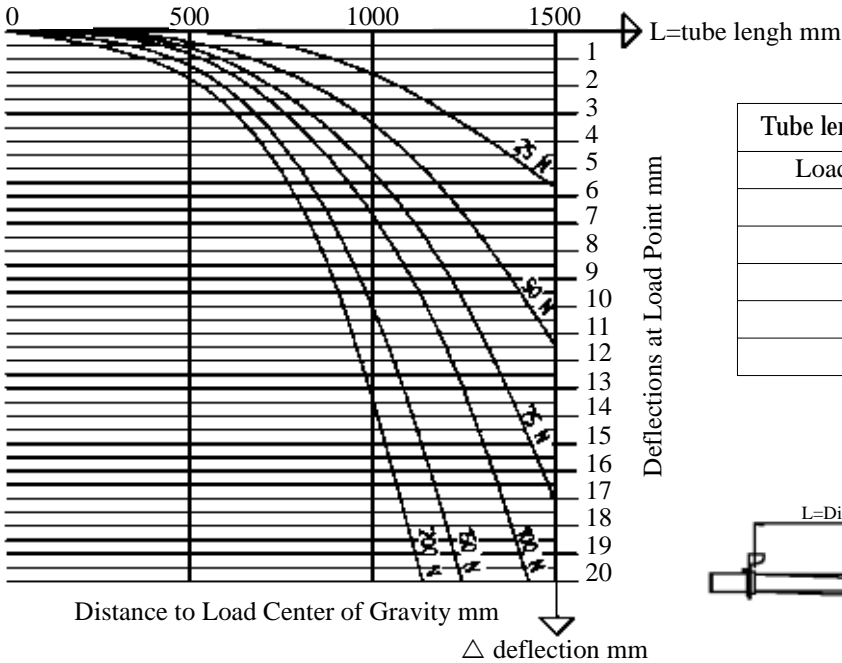
Deflection in mm

Tube length mm	500	1000	1500	2000
Load (N) 100 N	-	1	4	8
200 N	-	2	7	17
300 N	-	3	11	25
400 N	-	4	14	34
500 N	1	5	18	42
700 N	1	7	25	59
900 N	1	9	32	76

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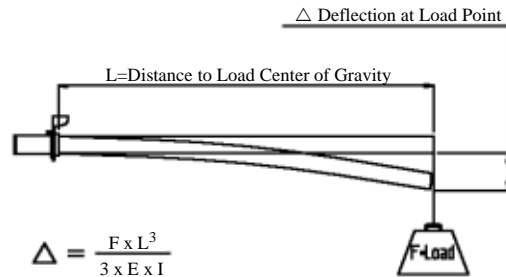
## 6.8 Deflection charts Ø38 tube

Aluminum Tube Outer diameter D = 38 mm  
Inner diameter d = 28 mm



Deflection in mm

Tube length mm	500	1000	1500
Load (N) 25 N	-	2	6
50 N	-	3	11
75 N	-	5	17
100 N	1	7	22
150 N	1	10	34
200 N	2	13	45



$$\Delta = \frac{F \times L^3}{3 \times E \times I}$$

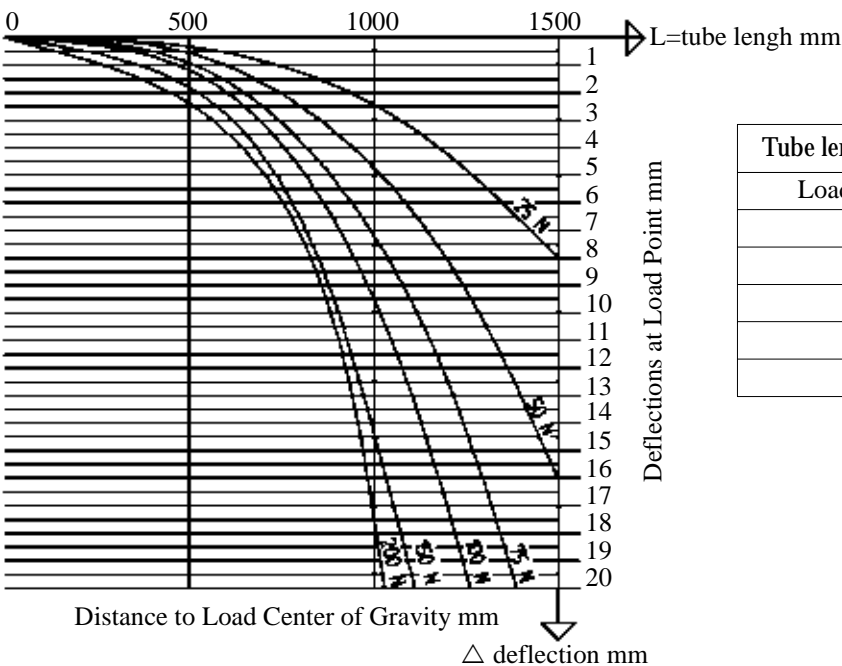
F = Load (N)

L = Length mm

E = Modulus of elasticity  $6,9 \times 10^3 \text{ N/mm}^2$

I = Moments of inertia  $\frac{\pi (D^4 - d^4)}{64} \text{ mm}^4$

Aluminum Tube Outer diameter D = 38 mm  
Inner diameter d = 32 mm



Deflection in mm

Tube length mm	500	1000	1500
Load (N) 25 N	-	3	8
50 N	1	5	16
75 N	1	7	24
100 N	1	9	32
150 N	2	14	48
200 N	2	19	64

Filename: Kap6.fm, Mod date: 2005 04 07