Seamless EO Steel Tubes

Material St. 37.4

St. 37.4 Phosphated & Oiled Part No.	St. 37.4 Zinc Plated & Chromium-6 Free Part No.	End Size (mm)	Toler-ance	Wall Thickness (mm)	Tube I.D. (mm)	Design Pressure (bar) DIN 2413 I Static	Design Pressure (bar) DIN 2413 III Dynamic	Burst Pressure (bar)	Weight (kg/m)	STANDARD FROM STOCK Phos & Oil	STANDARD FROM STOCK CF
R04x0.5	**R04x0.5VZ**	4		0.5	3	313	274	1160	0.047	•	
R04x0.75	**R04x0.75VZ**	4	±0.1	0.75	2.5	409	393	1820	0.063		
R04x1	**R04x1VZ**	4		1	2	522	502	2850	0.074	•	•
R05x1	**R05x1VZ**	5	±0.1	1	3	432	416	2120	0.099		•
R06x0.75	**R06x0.75VZ**	6		0.75*	4.5	333	289	1230	0.103		
R06x1	**R06x1VZ**	6		1	4	389	374	1680	0.123	•	•
R06x1.5	**R06x1.5VZ**	6	±0.1	1.5	3	549	528	3050	0.166	•	•
R06x2	**R06x2VZ**	6		2	2	692	665		0.197	•	
R06x2.25	**R06x2.25VZ**	6		2.25	1.5	757	728		0.208		
R08x1	**R08x1VZ**	8		1	6	333	289	1190	0.172	•	•
R08x1.5	**R08x1.5VZ**	8	±0.1	1.5	5	431	414	1860	0.240	•	•
R08x2	**R08x2VZ**	8		2	4	549	528	3020	0.296	•	•
R08x2.5	**R08x2.5VZ**	8		2.5	3	658	632		0.339		
R10x1	**R10x1VZ**	10		1	8	282	249	870	0.222	•	•
R10x1.5	**R10x1.5VZ**	10		1.5	7	373	358	1380	0.314	•	•
R10x2	**R10x2VZ**	10	±0.1	2	6	478	460	2100	0.395	•	•
R10x2.5	**R10x2.5VZ**	10		2.5	5	576	553	3180	0.462		
R10x3	**R10x3VZ**	10		3	4	666	641		0.518	•	
R12x1	**R12x1VZ**	12		1	10	235	210	760	0.271	•	•
R12x1.5	**R12x1.5VZ**	12		1.5	9	353	305	1150	0.388	•	•
R12x2	**R12x2VZ**	12	±0.08	2	8	409	393	1580	0.493	•	•
R12x2.5	**R12x2.5VZ**	12		2.5	7	495	476	2600	0.586	•	
R12x3	**R12x3VZ**	12		3	6	576	553	3200	0.666		
R12x3.5	**R12x3.5VZ**	12		3.5	5	651	627		0.734		
R14x1	**R14x1VZ**	14		1*	12	201	182	620	0.321		
R14x1.5	**R14x1.5VZ**	14		1.5	11	302	265	940	0.462	•	
R14x2	**R14x2VZ**	14		2	10	403	343	1340	0.592	•	•
R14x2.5	**R14x2.5VZ**	14	±0.08	2.5	9	434	417	1760	0.709		
R14x3	**R14x3VZ**	14		3	8	507	487	2400	0.814		
R14x3.5	**R14x3.5VZ**	14		3.5	7	576	553	3220	0.906		
R14x4	**R14x4VZ**	14		4	6	641	616		0.986		
R15x1	**R15x1VZ**	15		1*	13	188	171	590	0.345	•	•
R15x1.5	**R15x1.5VZ**	15		1.5	12	282	249	980	0.499	•	•
R15x2	**R15x2VZ**	15	±0.08	2	11	376	323	1250	0.641	•	•
R15x2.5	**R15x2.5VZ**	15		2.5	10	409	393	1690	0.771		
R15x3	**R15x3VZ**	15		3	9	478	460	2120	0.888		
R16x1	**R16x1VZ**	16		1*	14	176	160	540	0.370		
R16x1.5	**R16x1.5VZ**	16		1.5	13	264	234	820	0.536	•	•
R16x2	**R16x2VZ**	16	±0.08	2	12	353	305	1170	0.691	•	•
R16x2.5	**R16x2.5VZ**	16		2.5	11	386	372	1470	0.832	•	•
R16x3	**R16x3VZ**	16		3	10	452	435	1920	0.962	•	•
R18x1	**R18x1VZ**	18		1*	16	157	143	510	0.419	•	
R18x1.5	**R18x1.5VZ**	18		1.5	15	235	210	780	0.610	•	•
R18x2	**R18x2VZ**	18	±0.08	2	14	313	274	1040	0.789	•	•
R18x2.5	**R18x2.5VZ**	18		2.5	13	392	335	1320	0.956	•	
R18x3	**R18x3VZ**	18		3	12	409	393	1830	1.111		

* Tubes which need a support sleeve (VH) for assembly in EO and EO-2 fittings.

Table R3 — Seamless EO steel tubes

Pressure Calculations:

Calculation pressures given are according to DIN 2413 Part 1 for **static stress**

$$P = \frac{20 \cdot K \cdot s \cdot c \text{ (bar)}}{S \cdot d_a}$$

Material characteristic value K=235 N/mm²

and

DIN 2413 part III for **dynamic stress**

$$P = \frac{20 \cdot K \cdot s \cdot c \text{ (bar)}}{S \cdot (da + s \cdot c)}$$

Material characteristic value K=226 N/mm² (permanent fatigue strength)

Safety correction value S=1.5 for static and dynamic stress.

Factor “c” for consideration of wall thickness **divergence for static and dynamic stress** =0.8 for tube o.d. 4 and 5; 0.85 for tube o.d. 6 and 8; 0.9 for larger tube o.d.

d_a = Tube O.D. in mm

s = Wall thickness in mm

Standard Tube Length:

• 6 m (19.7 ft.)

Conversion Factors:

• Bar x 14.5 = psig
• kg/m x 0.672 = lbs/ft
• N/mm² x 145 = lb/in²

See Remarks on page R5.