

Seamless EO stainless steel tubes Material-No.: 1.4571

Tolerances DIN EN 10305-1

Order code	Tube O.D. (mm)	Tolerance	Wall thickness (mm)	Tube I.D. (mm)	1.4571 Design pressure bar DIN 2413 I Static	1.4571 burst pressure bar	Weight kg/m
R04X171	4	±0.08	1.0	2	735		0.075
R06X171	6	±0.08	1.0	4	490	1850	0.125
R06X1.571	6	±0.08	1.5	3	735	2900	0.169
R08X171	8	±0.08	1.0	6	368	1300	0.175
R08X1.571	8		1.5	5	551	2050	0.244
R10X171	10		1.0	8	294	950	0.225
R10X1.571	10	±0.08	1.5	7	441	1750	0.319
R10X271	10		2.0	6	588	2400	0.401
R12X171	12		1.0	10	245	850	0.275
R12X1.571	12	±0.08	1.5	9	368	1400	0.394
R12X271	12		2.0	8	490	1900	0.501
R14X1.571	14		1.5	11	315	1200	0.469
R14X271	14	±0.08	2.0	10	420	1550	0.601
R14X2.571	14		2.5	9	525	2100	0.720
R15X171	15		1.0	13	196	675	0.351
R15X1.571	15	±0.08	1.5	12	294	1100	0.507
R15X271	15		2.0	11	392	1400	0.651
R16X1.571	16	±0.08	1.5	13	276	950	0.545
R16X271	16		2.0	12	368	1300	0.701
R16X2.571	16	±0.08	2.5	11	459	1850	0.845
R16X371	16		3.0	10	551	2400	0.977
R18X1.571	18	±0.08	1.5	15	245	800	0.620
R18X271	18		2.0	14	327	1150	0.801
R20X271	20		2.0	16	294	1050	0.901
R20X2.571	20	±0.08	2.5	15	368	1400	1.095
R20X371	20		3.0	14	441	1800	1.277
R22X1.571	22	±0.08	1.5	19	200	650	0.770
R22X271	22		2.0	18	267	900	1.002
R25X2.571	25	±0.08	2.5	20	294	1050	1.408
R25X371	25		3.0	19	353	1275	1.653
R28X1.571	28	±0.08	1.5	25	158	550	0.995
R28X271	28		2.0	24	210	700	1.302
R30X2.571	30	±0.08	2.5	25	245	850	1.722
R30X371	30	±0.08	3.0	24	294	1150	2.028
R30X471	30		4.0	22	392	1500	2.605
R35X271	35	±0.15	2.0	31	168	550	1.653
R38X471	38	±0.15	4.0	30	309	1150	3.405
R42X271	42	±0.2	2.0	38	140	475	2.003
R42X371	42		3.0	36	210	750	2.930

Seamless EO stainless steel tubes (continued) Material-No.: 1.4571

Calculation pressure:

Calculation pressures given are according to DIN 2413 part I for **static stress**

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

Material characteristic value $K = 245 \text{ N/mm}^2$ (1.4571)
(1% proof stress)

Safety factor $S = 1.5$

Factor c for consideration of wall thickness divergence:
0.9

For range of application for which a certain safety value compared to burst pressure is demanded for tubes of 1.4571 grade stainless steel, the measured burst pressures are contained in tube-tables.

Calculation pressures according to DIN EN 2413 part III for **dynamic stress** are not listed, because in DIN 17458 the permanent fatigue stress is not listed. Until standards will be available for gauge localization of permanent fatigue strength we recommend for calculations to use DIN EN 2413 part III with the following characteristic values:
permanent fatigue strength $K=190 \text{ N/mm}^2$ for tubes of 1.4571; $S = 1.5$; $C = 0.9$.

Remarks:

Corrosion: additional allowances are not considered for the calculation of pressures.

Tubes with a diameter proportion $d_a/d_i \geq 1.35$ are calculated according to DIN 2413 III with above characteristic values.

Permissible temperature range and required

pressure reductions. This is based on calculated pressures at the elevated temperatures shown, taking into consideration the recommended reduction in proof stress (DIN EN 10216-5).

Temperature	-60° up to +20° C	50°C	100°C	200°C	300°C	400°C
Pressure reductions in %	1.4571	-	5.5	11.5	21.5	29 34

Interpolation is acceptable for intermediate temperature levels.

Seamless EO steel tubes Material C-Steel

for hydraulic and pneumatic pressure lines.

SAE J 524. C-Steel.

Test according ASTM A 179-90 A/ASME SA 179.

Quality and leak tested.

Order code (With Tube O.D. and wall thickness Inch)	Tube O.D. (mm)	Tolerance	Wall thickness (mm)	Design pressure bar		burst pressure bar	Weight kg/m
				DIN 2413 I Static	DIN 2413 III Dynamic		
R1/4X0.049	6.35	±0.08	1.24	553	450	-	0.157
R3/8X0.049PHR	9.53	±0.08	1.24	368	316	-	0.254
R3/8X0.065PHR	9.53	±0.08	1.65	489	405	-	0.321
R1/2X0.049PHR	12.70	±0.08	1.24	276	243	-	0.352
R1/2X0.065PHR	12.70	±0.08	1.65	367	314	-	0.450
R5/8X0.083PHR	16.00	±0.08	2.11	374	320	-	0.716
R3/4X0.095PHR	19.05	±0.08	2.41	357	307	-	0.990
R3/4X0.109PHR	19.05	±0.08	2.67	410	347	-	1.112
R1X0.095PHR	25.40	±0.08	2.41	268	236	-	1.368
R1X0.120PHR	25.40	±0.08	3.05	338	292	-	1.680
R11/4X0.120PHR	31.75	±0.08	3.05	271	239	-	2.157
R11/2X0.156PHR	38.10	±0.15	3.96	293	257	-	3.336

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