Seamless steel tubes for pressure purposes are manufactured according to standard UNE-EN 10216 (DIN 2448)

It is supplied at 2 degrees different from non-alloy steel of which symbolic and numeric designations are the following:

Designation of the steel grade	
Symbolic	**Numeric**
P235TR1	1.0254
P265TR1	1.0258

The seamless steel tubes are manufactured according to this standard must accomplish the following values reflected in the following table for longitudinal probes:

Steel grade	Yield Strength R_{eH} for thickness in mm N/mm^2 min.			Tensile strength R_m N/mm^2 min.	Elongation at breakage A % min.	
	<=16	>16<=40	>40<+65		Longitudinal	Transversal
P235TR1	235	225	215	350 to 480	25	23
P265TR1	265	265	255	420 to 550	21	19

The chemical composition of the seamless steel tubes will be according to the requirements of the following table:

Steel grade	Sort of deoxidization R calming (including semi calming) RR special calming	Heat Analysis			
		Max C %	Max P %	Max S %	Max N[1] %
P235TR1	R	0,17	0,040	0,040	0,009
P265TR1	R	0,21	0,040	0,040	0,009
In the Heat Analysis, the content of S must not exceed 0.55% and the Mn content no more than 1.60%. [1] This value will not be applied in the case of the steel being supplied according to the sort of RR deoxidization.					

Below we present a table with the dimensions and mass per unit of length of the tubes which are manufactured according to this standard and which we will use in our production process:

Outside Diameter (mm.)	Wall Thickness (mm.)	Tolerances on the outside diameter (mm.)		Mass per unit of length (Kg/m)
		Max.	Min.	
33,7	2,60	34,0	33,4	1,99
42,4	2,60	42,8	42,0	2,55
48,3	2,60	48,8	47,8	2,93
60,3	2,90	60,9	59,7	4,11
76,1	2,90	76,9	75,3	5,24
88,9	3,20	89,8	88,0	6,76
114,3	3,60	115,4	113,2	9,83
139,7	4,00	141,1	138,3	13,4
168,1	4,50	169,8	166,4	18,2
219,1	6,30	221,3	216,9	33,1

For the seamless steel tubes, which are manufactured according to this standard, being d_e the outside diameter, the tolerance in the dimension is the following:

$d_e \leq 130$mm	+15% -10%
130 mm. < $d_e \leq$ 320 mm	±12,5%
320 mm. < $d_e \leq$ 660 mm	+15% -12,5%

In this standard, the available length and the allowable differences about lengths appear in the following table:

Sort of Length (L)		**Tolerances in length**
Manufacturing Lengths		The tubes are supplied in the lengths or elongations obtained in the manufacturing process
Specified Lengths		± 500 mm.
Exact Lengths	L ≤ 6 m	+10 0 mm
	6 m < L ≥ 12 m	+15 0 mm
	L > 12 m	By agreement

For tubes in which the diameter is equal or superior to 33,7 mm., the deviation of the straightness (shaft) respecting any length of the tube L, being L the length supplied by the manufacturer, it must not be larger than 0,002 L.

The tolerance for the oval defect is included in the diameter tolerance.