Seamless pipe according to

**UNE EN 10216-1** (DIN 2448)



*Engineered Fire Piping S.L. | c.del Pino 17, Polígono Industrial La Malena, Yuncos, Toledo – España*

*C.I.F. B - 45762119 | Inscrita en el Registro Mercantil de Toledo*

Unalloyed steel seamless tubes are supplied for pressure applications, with specific characteristics at room temperature

The symbolic and numerical designation, as well as the values that must meet the corresponding **Traction Tests** to

which they are subjected:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Steel designation** | | **Tensile test** | | | | | |
| Symbolic | Numerical | Upper yield strength ReH min. for  a wall thickness T (mm) | | | Tensile strength  Rm | Elongation  A mín % | |
| T≤16 | 16<T≤40 | 40<T≤60 |
| Mpa\* | Mpa\* | Mpa\* | Mpa\* | Longitudinal | Transversal |
| P235TR1 | 1,0254 | 235 | 225 | 215 | 360 a 500 | 25 | 23 |
| P265TR1 | 1,0258 | 265 | 255 | 245 | 410 a 570 | 21 | 19 |

\* 1 Mpa = 1 N/mm

The Chemical Composition of the seamless steel pipe will be according to the requirements of the table shown

below

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Designación del Acero** | | **C** | **Si** | **Mn** | **P** | **S** |
| Simbólica | Numérica | % máx. | % máx. | % máx. | % máx. | % máx. |
| P235TR1 | 1,0254 | 0,16 | 0,35 | 1,20 | 0,025 | 0,020 |
| P265TR1 | 1,0258 | 0,20 | 0,40 | 1,40 | 0,025 | 0,020 |

This Standard presents a **Table of Dimensions Masses / Length Unit - Diameter and Thickness**

**Tolerances** referring to the manufactured pipe used in our production process

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **External diameter** | **Wall thickness** | **Tolerances in the**  **External diameter** | | **Mass per unit**  **length of black pipe** |
| mm. | mm. | máx. | máx. | Kg/m. |
| 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 |

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For seamless fabricated pipe the **Wall thickness tolerance** is to be in accordance with the following table:

|  |  |  |
| --- | --- | --- |
| **External diameter range** | **Wall thickness tolerance** | |
| mm. | Maximum limit (%) máx. | Minumum limit (%) máx. |
| de ≤ 130 mm | + 15 % | - 10 % |
| 130 mm < de ≤ 320 mm | + 12,5 % | - 12,5 % |
| 320 mm < de ≤ 660 mm | + 15 % | - 12,5 % |

The types of length and the admissible Longitudinal Tolerances are reflected in the following table:

|  |  |  |
| --- | --- | --- |
| **Length type** | **Length (L)** | **Length tolerance** |
|  | m. | mm. |
| Normal length | 6 m ó 6,4 m | The length of tubes supplied is obtained after fabrication process |
| Random lengths | 4 m ≤ L ≥ 16 m | [± 500 mm] |
| Exact length | L ≤ 6 m | [+ 10 mm , 0 mm] |
| 6 m < L ≥ 12 m | [+ 15 mm , 0 mm] |
| L > 12 m | por acuerdo |

The Total Deviation on the straightness of a length of tube L (arrow) for diameters bigger than 33,7mm must not exceed in mm ***0,002xL***.

The Tolerance for Ovality Defect is included in the diameter tolerance.

