

**DECLARATION OF PERFORMANCE**

**DOP N° 0121/005**

Product Identification Code	Welded tube made of structural steel S355J2H in accordance with EN10219
Identification	According to the information stated on the ID label with barcode and/or bundle number and in the inspection certificate
Intended use of the construction product	Cold formed welded structural hollow sections of circular, square and rectangular shape, without subsequent heat treatment
Manufacturer (registered office)	<b>Marcegaglia S.p.A.</b> Via Bresciani, 16 – 46040 Gazoldo Degli Ippoliti (MN) - Italy
Production Plant	<b>Dusino San Michele</b> Corso Industria 42 – 14010 Dusino S. Michele Asti (AT) - Italy
System of assessment and verification of the continuity of performance of the construction product	<b>2+</b>
Name and ID number of the notified Body	RINA Service spa – Via Corsica, 12 – 16128 Genova Italy <b>0474</b>
Certificates of Conformity for the control of the plant production have been issued for the following elements: Starting inspection of the production plant and of the factory production control Surveillance, evaluation and regular audits of the factory production control	

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Main Features	Performance	Harmonised specification
Dimensional Tolerances	As per Table 2	EN10219-2
Elongation	As per Table 1	EN10219-1
Tensile strength		
Yield strength		
Impact strength		
Weldability (CEV)	0.45% max	
Durability	N.P.D.	

This declaration of performance is issued under the sole responsibility of the manufacturer identified above

Firmed for and on behalf of Marcegaglia spa by:

*Silvio Sola*

*Dusino S. Michele Plant Manager*

Dusino S. Michele 01/07/2013

This declaration of performance is valid only in presence of the product identification label and delivery document or of the inspection certificate issued after delivery

Table1 – Mechanical properties								
Steel grade		Minimum yield strength Reh.	Tensile strength Rm		Allungamento.min% <sup>(c)</sup>	Valore min di Resilienza		
Steel Name	Steel Number	MPa	MPa		Lo=5.65√So	KV in J <sup>(d)</sup>		
		Nominal thickness in mm					Test temperature	Impact Energy
		≤ 16	< 3	≥ 3 ≤ 40	≤ 40			
S355J2H <sup>(a)</sup>	1.0512	355	510+680	470+630	20 <sup>(b)</sup>	-20°	27	
a. Impact properties are verified only when option 1.3 is specified in the order b. See below exceptions: <input type="checkbox"/> For thickness >3mm and D/T section sizes <15 (round) and (B+H)/2T <12,5 (square and rectangular) the minimum elongation is reduced by 2 <input type="checkbox"/> For thickness ≤ 3mm the minimum value for elongation is 17% c. For thickness <3mm the percentage elongation may be reported for a length of 80mm or 50mm d. Impact test, when applicable or required, shall be carried out in accordance with EN10219-1. Impact test are not required for nominal thickness <6mm								

Table 2 – Dimensional Tolerance		
Outside Dimensions (D, B and H) <sup>(4)</sup>	Tubi circolari	Tubi sagomati
		± 1% with a minimum of ± 0,5mm and maximum of ±10mm
Thickness (T)	D ≤ 406,4 T ≤ 5mm ⇒ ± 10% T > 5mm ⇒ ± 0,5mm D > 406,4 ⇒ ± 10% con min ± 2mm	T ≤ 5mm ⇒ ± 10% T > 5mm ⇒ ± 0,5mm
Out of Roundness (O)	2% for hollow section having a D/T ≤ 100 <sup>(1)</sup> using the formula: $O(\%) = \frac{D_{max} - D_{min}}{D} * 100$	
Concavity/Convexity (x <sub>1</sub> , x <sub>2</sub> ) <sup>(2)</sup>	-	Max 0,8% with a minimum 0,5% using the formula $\frac{x_1}{B} * 100\%$ ; $\frac{x_1}{H} * 100\%$ ; etc.
Squareness of side (θ)	-	90° con ± 1°
External Corner Profile (C <sub>1</sub> , C <sub>2</sub> o R)	-	T ≤ 6mm ⇒ 1,6T √ 2,4T 6 < T ≤ 10 ⇒ 2,0T √ 3,0T 10 > T ⇒ 2,4T √ 3,6T
Twist (V)	-	2mm + 0,5mm/mlin
Straightness (e)	0,20 % of total length and 3mm over any 1 meter length	0,15 % of total length and 3mm over any 1 meter length
Mass (M)	± 6 % on individual delivered lengths	
Tolerance on length <sup>(3)</sup>	Exact length	< 6000mm ⇒ -0 + 5mm
		≥ 6000mm e ≤ 10000mm ⇒ -0 + 15mm
Approximate length	> 10000mm ⇒ -0 + 5mm + 1mm/m	
	> 4000mm ⇒ -0 + 50mm	
1. When D/T is >100 the tolerances on out of roundness shall be subject to specific agreement 2. The tolerance on convexity and concavity is independent of the tolerance on outside dimension 3. At the time of enquiry and order the manufacturer shall establish the type of required length and the range or lengths 4. All dimensions shall be measured at the minimum distance of 100mm from the ends of the follow section		