MARCEGAGLIA
Headquarters
quality department

DECLARATION OF PERFORMANCE
NR. 0103/004

<div align="right">Rel. 0</div>

Identification code of the product-type	Welded tube made of non-alloy structural steel S355J0H in accordance with EN10219:2006.
Identification of the construction product	In accordance with the information included in the identification 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, or rectangular forms formed cold without subsequent heat treatment.
Manufacturer (registered office)	**Marcegaglia S.p.A.** Via Bresciani, 16 – 46040 Gazoldo degli Ippoliti (MN) – Italia
Production plant	**Casalmaggiore** s.s.420 Sabbionetana – 26041 Casalmaggiore (CR) - Italia
System of assessment and verification of constancy of performance of the construction product	**2+**
Name and identification number of the notified body	RINA Service S.p.A. – Via Corsica, 12 – 16128 Genova - Italia **0474**

Issued the certificate of conformity of the factory production control on the basis of the following elements:
- starting inspection of the production plant and of the factory production control.
- surveillance, evaluation and continuous audits of the factory production control.

DECLARED PERFORMANCE

Essential characteristics	Performance	Harmonised technical specification
Tolerances on dimensions and shape	In compliance with table 2	EN10219-2:2006
Elongation	In compliance with table 1	EN10219-1:2006
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 in the previous point.

Signed for and on behalf of Marcegaglia S.p.A. by:

Roberto Ing. Ferrari
Casalmaggiore Plant Manager

<div align="right">*Casalmaggiore 01/07/2013*</div>

This declaration of performance is valid only in presence of the material identification label and the waybill or the inspection certificate issued after delivery.

Table 1 – Mechanical properties							
Steel grade		Minimum yield strength R_{eH}	Tensile strength R_m		Minimum elongation A [c]	Minimum impact energy	
Steel name	Steel number	[MPa]	[MPa]		[%]	KV in J [d]	
		Specified thickness in mm				Test temperature	Min. impact energy
		≤ 16	< 3	≥ 3 ≤ 40	≤ 40		
S355J0H [a]	1.0547	355	510÷680	470÷630	20 [b]	0°	27

a. Impact properties are verified only when option 1.3 is specified.
b. See derogations here below:
   ☐ For thicknesses > 3 mm and section sizes D/T < 15 (round) e (B+H)/2T < 12,5 (square and rectangular) the minimum elongation is reduced by 2.
   ☐ For thicknesses ≤ 3,0 mm the minimum value for elongation is 17%
c. For thicknesses < 3,0 mm the percentage elongation may be reported for a gauge length of 80 mm or 50 mm
d. Impact test, when applicable or required, shall be carried out in accordance with EN10219-1. Impact test is not required for specified thicknesses < 6 mm.

Table 2 – Tolerances on shape and mass			
	Circular hollow sections	Square and rectangular hollow sections	
Outside dimensions (D, B e H) [4]	± 1% with a minimum of ± 0,5 mm and a maximum of ±10 mm	H, B < 100 mm ⇒ ± 1% with a minimum of ± 0,5 mm	
		100 mm ≤ H, B ≤ 200 mm ⇒ ± 0,8%	
		H, B > 200 mm ⇒ ± 0,6%	
Thickness (T)	For D ≤ 406,4 mm: T ≤ 5 mm ⇒ ± 10% T >5 mm ⇒ ± 0,5mm per D > 406,4 mm ± 10% with a maximum of ± 2mm	T ≤ 5 mm ⇒ ± 10% T > 5 mm ⇒ ± 0,5 mm	
Out of roundness (O)	2% for hollow sections having a D/T ≤ 100 [1] using the formula: $O(\%) = \dfrac{D\max - D\min}{D} * 100$		
Concavity/Convexity (x_1, x_2) [2]	-	Max. 0,8% with a minimum of 0,5mm using the formula: $\dfrac{x1}{B}*100\%; \dfrac{x1}{H}*100\%$; ecc.	
Squareness of side (θ)	-	90° ± 1°	
External corner profile (C_1, C_2 or R)	-	T ≤ 6 mm ⇒ 1,6T ÷ 2,4T	
		6 < T ≤ 10 ⇒ 2,0T ÷ 3,0T	
		10 < T ⇒ 2,4T ÷ 3,6T	
Twist (V)	-	2mm plus 0,5 mm/m length	
Straightness (e)	0,20 % of total length and 3 mm over any 1 m length.	0,15 % of total length and 3 mm over any 1 m length	
Mass (M)	± 6 % on individual delivered length		
Tolerances on length [3]	Exact length	< 6000mm	⇒ 0; + 5 mm
		≥ 6000mm and ≤ 10000mm	⇒ 0; + 15 mm
		> 10000mm	⇒ 0; + 5 mm + 1mm/m
	Approximate length	> 4000mm	⇒ 0; + 50 mm

1. Where D/T > 100 the tolerances on out of roundness shall be agreed.
2. The tolerance on convexity and concavity is independent of the tolerance on outside dimensions.
3. The manufacturer shall establish at the time of enquiry and order the type of length range or length.
4. All external dimensions, including out of roundness, shall be measured at the minimum distance of 100 mm from the end of the hollow section.