

ENTREGA DE DOCUMENTACIÓN / DOCUMENTATION DELIVERY

| | |
|--|-----------------------------|
| Tipo de Requisito Documental: <i>Type of Document Requirement:</i> | MC |
| Proveedor: <i>Supplier:</i> | ESTRUCTURAS PARA ENERGÍAS R |
| Nº Pedido: <i>Order Number:</i> | C-PE23/00994 |
| Fecha: <i>Date:</i> | 04/07/2024 |
| Nº Pieza: <i>Part Number:</i> | T000982574-11302P01 |
| Cantidad: <i>Quantity:</i> | 14 |

Arvedi Tubi Acciaio S.p.A.

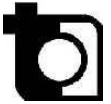
26100 Cremona - Italia
Via Acquaviva, 3 - Zona Porto Canale
Tel. +39 0372 4091
Fax +39 0372 413170

www.arvedi.it

A01

Cap.Soc. 24.000.000 EUR i.v.
Società soggetta all'attività di
direzione e coordinamento di
Finarvedi S.p.A.
Società con Socio Unico
R.I. CR 00113630198
R.E.A. CR 90188
Mecc. Est. CR 000296
C.F. e Part. IVA IT 00113630198

A04

Arvedi Tubi Acciaio**Inspection certificate EN 10204/3.1**

A02

| | | | |
|-----------------------|-------------------|--------------------|-------------------|
| Number A03 | 848421 | date Z02 | 03/04/2023 |
| Our order A08 | 0211269699 | / 10 | |
| Customer order A07 | 817/2023A | | |
| date | 28/02/2023 | | |
| Consegna | 0221576042 | | |
| delivery A10 | 0000206999 | date | 03/04/2023 |

Messrs

A06

ESTRUCTURAS PARA ENERGIAS RENOVABLES S.L
EPER
POL. IND. CITRUÉNIGO C/I N°6

31592 CINTRUENIGO-NAVARRA

ES

Description **TUBE NORMALIZED**

B01

Standard **EN 10210 HFHS**

B01

Dimensions **SGM 120X120X10X8500 EN10210 S355J2H**

B04;B9-B11

Steel grade **S355J2H Z3**

B02

Tubes **57 MT 484,50 KG 15.497,00**

B08

B14

B13

Chemical analysis

C71-C92

| | C | Mn | Si | P | S | Al | Cr | Ni | Mo | Cu | Sn | V | Nb | Ti | B | N |
|----------|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|--------|--------|--------|---|--------|
| min | | | 0,1500 | | | 0,0200 | | | | | | | | | | |
| max | 0,2500 | 1,7000 | 0,2500 | 0,0350 | 0,0400 | | 0,3000 | 0,5000 | 0,1000 | 0,3500 | | 0,1200 | 0,0500 | 0,0300 | | 0,0110 |
| B07 | | | | | | | | | | | | | | | | |
| 3130280A | 0,1970 | 1,0500 | 0,1860 | 0,0049 | 0,0001 | 0,0358 | 0,0492 | 0,0717 | 0,0125 | 0,2060 | | 0,0034 | 0,0118 | 0,0020 | | 0,0036 |
| 3130280A | C+MN/6+(CR+MO+V)/5+(NI+CU)/15 | | | | | | <=0,45 | | 0,4035 | | | | | | | |

Mechanical and technological tests

C10-C29

| <u>Mechanical and technological tests</u> | | | | | | R (MPa) | | | | REH (MPa) | | | | A(%) | | Rs/R | | Fm (N) | | |
|---|--|-----|----------|--|-----|---------|-----|-----|-------|-----------|-----|--|-----|------|------|------|-------|--------|--|--|
| C10-C29 | | | | | | >= | 470 | <= | 630 | >= | 355 | | | >= | 22,0 | | | | | |
| Works Nr. | | B07 | Heat | | B07 | Lot | | B07 | Tubes | | 57 | | 525 | | 387 | | 33,00 | | | |
| 11120315 | | | 3130280A | | | | | | 57 | | | | 525 | | 387 | | 33,00 | | | |

Impact test

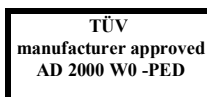
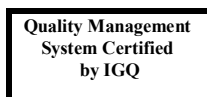
C40-C49

| | Code | °C C03 | Limit (J/cm2) | Value | | | Mean | C43 | Sample dim. | C41 | Position | C01-C02 |
|---|------|--------|---------------|-------|-----|-----|------|-----|-------------|-----|--------------------------|---------|
| 1 | KV | -20 | 27 | 228 | 233 | 230 | 230 | | 7,5 | 55 | pipe body – longitudinal | |

| Test | B06;D1-D6;D51-D60 | Standard | Required | | - | Result |
|------------------------|-------------------|----------------|----------|-----|-----|-----------------|
| Non destructive test | | EN ISO 10893-2 | E4 | % | 100 | POSITIVE |
| Dimensional inspection | | EN 10210-2 | | LOT | 1 | POSITIVE |
| Visual | | EN 10210-1 | | % | 100 | POSITIVE |

Remarks

D51



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C.F. e Part. IVA IT 00113630198

A04

Arvedi Tubi Acciaio



Inspection certificate EN 10204/3.1

A02

| Number <small>A03</small> | 848421 | date <small>Z02</small> | 03/04/2023 |
|--------------------------------------|-------------------|-----------------------------------|-------------------|
| Our order <small>A08</small> | 0211269699 | / 10 | |
| Customer order <small>A07</small> | 817/2023A | | |
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Messrs
ESTRUCTURAS PARA ENERGIAS RENOVABLES S.L
EPER
POL. IND. CITRUÉNIGO C/I N°6

31592 CINTRUENIGO-NAVARRA

A06

ES

Z04

| | |
|---|------------|
| CE 1608 | |
| Arvedi Tubi Acciaio S.p.A. via Acquaviva 3, I-26100 Cremona 23 1608 CPR P063 | |
| EN 10210-1:2006 DoP n. 10210-01072013-2 | |
| Hot finished structural hollow sections of non-alloy and fine grain steels <i>Profilati cavi finiti a caldo per impieghi strutturali di acciai non legati e a grano fine</i> | |
| Product designation (<i>Designazione prodotto</i>): | S355J2H |
| Dimensional Tolerances (<i>Tolleranze dimensionali</i>): | EN 10210-2 |
| Elongation (<i>Allungamento</i>): | EN 10210-1 |
| Tensile and Yield strength (<i>Carico di snervamento a rottura</i>): | EN 10210-1 |
| Impact energy (<i>Resilienza</i>): | EN 10210-1 |
| Weldability (<i>Saldabilità</i>): | EN 10210-1 |

DOP download link:

<https://www.arvedi.it/en/ata/quality-and-technology/product-environment-and-people/>

A05 QUALITY DEPARTMENT

Z02 (Noris Battocletti)

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Fax +39 0372 409349

e-mail: controllo.qualita@ata.arvedi.it

Z01

We hereby certify, that the material described above has been tested and complies with the terms of the order contract. This certificate has been created by a data processing system and does not contain a personal signature but the name and the official address of the appointed department.

