





**CERTIFICATO DI QUALIFICA PROCEDIMENTO DI SALDATURA**  
 WELDING PROCEDURE RECORD TEST CERTIFICATE / ZERTIFIKAT ANERKENNUNG VON SCHWEISSVERFAHREN

**WPQR**

**PROSAL-3049-2026**

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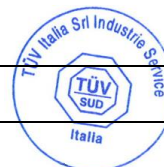
Riferimento int. No.: **722414002**  
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TIPO DI PROTEZIONE:		EN ISO 14175		---	---
Type of protection - Zündschutzart:					
8.5.1 12x	<b>Designazione:</b> Designation / Bezeichnung:	M21	---	---	
	<b>Produttore:</b> Manufacturer - Hersteller:	---	---	---	
	<b>Nome commerciale:</b> Trade name - Handelsname:	---	---	---	
	<b>Numero Kennblatt:</b> Kennblatt number - Kennblatt nummer:	---	---	---	Only for AD2000 use
VdTUV Kennblattliste					
8.5.2.1 13x 8.5.3.1 14x	<b>Dritto:</b> Straight - Gerade:	Ar + CO <sub>2</sub>	---	---	%
	<b>Portata:</b> Flow rate - Fließrate:	15 - 18	---	---	lt/min
8.5.4 15x	<b>Plasma:</b> Plasma:	---	---	---	%
	<b>Portata:</b> Flow rate - Fließrate:	---	---	---	lt/min
13x 8.5.6 14x 15x	<b>Rovescio:</b> Backing - Unterstützung:	---	---	---	%
	<b>Portata:</b> Flow rate - Fließrate:	---	---	---	lt/min
8.4.10	<b>Deidrogenazione:</b> Post-Heating - Post-Heizung:		---		
8.4.11	<b>Trattamento termico dopo saldatura:</b> Post-Weld Heat Treatment: Wärmenachbehandlung:	<b>Gradiente di riscaldamento:</b> Heating Rate - Aufheizrate:	---		°C/h
		<b>Tempo di mantenimento:</b> Holding Time - Haltedauer:	---		min
		<b>Temperatura di mantenimento:</b> Hold Temperature - Haltemperatur:	---		°C
		<b>Gradiente di raffreddamento:</b> Cooling Rate - Abkühlrate:	---		°C/h
	<b>Temperatura minima di lavoro:</b> Minimum allowable temperature: Betriebstemperatur jedoch nicht tiefer als:			[ if required - see value impact test ]	°C

**VARIABILI NON ESSENZIALI - NOT ESSENTIAL VARIABLES - NICHT WESENTLICHE VARIABLEN**

<b>Elettrodo di Tungsteno:</b> Tungsten Electrode:	---	---	---	EN ISO 6848
<b>Dimensioni:</b> Size - Durchmesser:	---	---	---	mm
<b>Nome del Saldatore:</b> Welder's Name - Name des Schweißers:	Vincenzo Ceglia	---	---	
<b>Punzone:</b> Stamp - Stempeln:	VC	---	---	
<b>Saldatrice:</b> Welding equipment - Schweißgeräte:	FRONIUS	intelligent revolution TPS 500i	---	
	ABB	irc5 Single n. 2600-122539	---	
<b>Materiale d'apporto Ø:</b> Filler Metal - Zusatzmetall Ø:	---	---	---	mm
<b>Altre Informazioni:</b> Other information - Weitere Informationen:	Sample 09002		---	

Luogo Location - Ort	Data di Emissione Date of Issue - Datum der Ausstellung	Ispettore Inspector's Name and Signature Name und Unterschrift des Inspektors
Milano	22/04/2026	E. MONEGO 





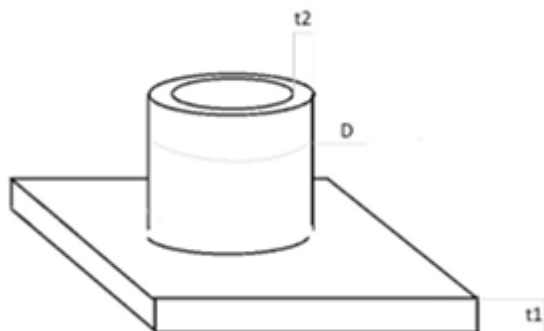
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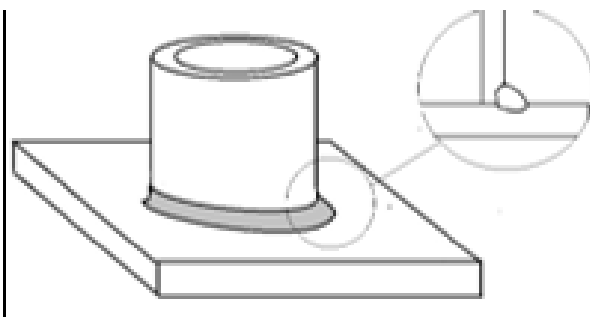
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**Disegno Giunto / Joint Design / Gestaltung** | **Sequenza Saldatura / Welding Sequence / Schweißfolge**



t1= 12mm; t2= 10mm; D= 48.3mm

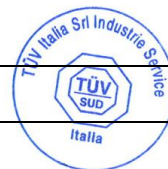


Passata Layer Lage	Proced. Process Prozeß	Materiale d'apporto Filler Metal Zusatzmetall	Passata / Arco / Polarità Layer / Arc / Current Kabeltyp / Lichtbogen / Stromart	Prerisc Preheat Vorheiz. [°C min]	Interp. Interp. Zwische. [°C max]	Volts [V]	Ampere [A]	Avanzam. Travel speed Reisegeschw. [mm/min]	A.T.S. Heat Input Wärmeeinbring. [kJ/mm] <b>8.4.7</b> [%]
1	135	G 69 5 M21 Mn3Ni1CrMo	String Spray DC-EP	≥15° C	N.A.	27	260	420	0,80
									- 25

**CONTROLLI NON DISTRUTTIVI – NON DESTRUCTIVE TESTS – NICHT ZERSTÖRENDE PRÜFUNGEN**

	Effettuato ed accettabile Performed and acceptable – Ausgeführt und bestanden
Visivo – Visual test – Sichtprüfung	SU26090C014002VTREVO
Liquidi penetranti – Penetrant test – Kerbzugprüfung	SU26090C014002PTREVO
Magnetoscopia – Magnetoscopic test – Magnetoskopischer test	---
Radiografia – Radiographic test – Radiographische untersuchung	---
Ultrasuoni – Ultrasonic test – Ultraschallprüfung	---
---	---

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**ANALISI CHIMICA – CHEMICAL ANALYSIS – CHEMISCHE ANALYSE**

C	Mn	Si	Cr	Ni	Mo	Cu	V	Co	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**FERRITE CONTENUTA (FN) – FERRITE CONTENT – FERRIT-INHAL**

<b>Richiesta:</b> Requirement – Anforderung:	---	---
<b>Rilevata:</b> Investigate – Untersuchen:	---	---

**PROVA DI TRAZIONE – TENSILE TESTS – ZUGPRÜFUNG**

Temperatura – Temperature – Temperatur: **20** °C

N. No. Nr.	Posizione Location Lage	Dimensioni Dimensions Abmessungen [mm x mm]	Re [MPa]	Rp 0,2/1,0 [MPa]	Rm [MPa]	A [%]	Z [%]	Osservazioni Remarks Bemerkungen
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---

**TW:** Trasversale – Transversal.  
**LW:** Longitudinale – Longitudinal – in Längsrichtung.

**PROVA DI PIEGA – BEND TEST – BIEGEPRÜFUNG**

Temperatura – Temperature – Temperatur: **20** °C

N. No. Nr.	Posizione Location Lage	Dimensioni Dimensions Abmessungen [mm x mm]	Mandrino Spindle Spindel [mm]	Distanza rulli Distances rollers Abstandsrollen [mm]	Angolo Angle Winkel [°]	Esito Results Ergebnisse	Osservazioni Remarks Bemerkungen
---	---	---	---	---	---	---	---
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**SBB:** Trasversali laterali – Transversal side – Transversal seite.  
**TFBB:** Trasversali al dritto – Transversal face – Transversal gesicht.  
**TRBB:** Trasversali al rovescio – Transversal root – Transversaler Wurzelbiegetest.

**PROVA DI RESILIENZA – IMPACT TEST – AUFPRALLPRÜFUNG**

Energia – Energy – Energie: **450** Joule

N. No. Nr.	Posizione Location Lage	Dimensioni Dimensions Abmessungen [mm x mm]	Intaglio Notch Kerb	Temperatura Temperature Temperatur [°C]	Valore Value Wert [J]	Shear [%]	Exp lat Exp lat Sei Aus [mm]	Valore Value Wert [J]	Shear [%]	Exp lat Exp lat Sei Aus [mm]	Valore Value Wert [J]	Shear [%]	Exp lat Exp lat Sei Aus [mm]	Media Average Durch.
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**VVT:** Trasversali center line – Transversal in center line – Transversal in der Mittellinie.  
**VHT:** Trasversali ZTA – Transversal in HAZ – Transversal in der WEZ.  
**FLT:** Trasversali fusion line – Transversal fusion line – Transversaler Transversal in der Fusionslinie.  
**T:** Trasversale materiale base – Transversal base metal – Querbasismetall.  
**L:** Longitudinale materiale base – Longitudinal base metal – Längslage im Grundwerkstoff.

<b>Luogo</b> Location - Ort	<b>Data di Emissione</b> Date of Issue - Datum der Ausstellung	<b>Ispettore</b> Inspector's Name and Signature Name und Unterschrift des Inspektors
Milano	22/04/2026	E. MONEGO 



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**PROVA DI DUREZZA – HARDNESS TEST – HÄRTEPRÜFUNG**

Tipo – Type – Art: **HV<sub>10</sub>**

Requisiti – Requirements – Anforderungen: **≤ 380**

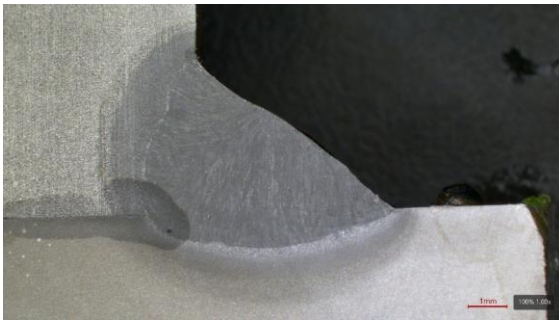
Materiale Base Base Metal / Grundwerkstoff			ZTA HAZ / WEZ				Zona Fusa Weld Metal / Schweißgut			ZTA HAZ / WEZ			Materiale Base Base Metal / Grundwerkstoff					
1	2	3	4	5	6	Indent. Suppl.	Indent. Suppl.	7	8	9	Indent. Suppl.	Indent. Suppl.	10	11	12	13	14	15
265	268	279	237	249	235	---	---	262	264	259	---	---	184	185	187	174	181	179
16	17	18	19	20	21	Indent. Suppl.	Indent. Suppl.	22	23	24	Indent. Suppl.	Indent. Suppl.	25	26	27	28	29	30
282	281	277	261	263	260	---	---	306	309	304	---	---	190	192	173	174	178	179
1	2	3	4	5	6	Indent. Suppl.	Indent. Suppl.	7	8	9	Indent. Suppl.	Indent. Suppl.	10	11	12	13	14	15
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SU26090C014002HTREVO



**MACROGRAFIA – MACROGRAPHY – MAKROGRAFIE**

**MACROGRAFIA – MACROGRAPHY – MAKROGRAFIE**



Attacco – Etching – Ätzen: Nital 10%

Attacco – Etching – Ätzen: Nital 10%

Ingrandimento – Magnification – Vergrößerung: 3x

Ingrandimento – Magnification – Vergrößerung: 3x

Risultato – Result – Resultat: **SU26090C014002MAREVO**

Risultato – Result – Resultat: **SU26090C014002MAREVO**

Tutte le verifiche preliminari prescritte al Cap. 8.2 della procedura PSAL\_01 in rev. corrente sono state eseguite dall'esaminatore:

All preliminary checks have been performed by the examiner in accordance with the Ch. 8.2 of the procedure PSAL\_01 in current rev.:

Alle vorläufigen Tests wurden vom Prüfer entsprechend Kap. 8.2 Prüfungsweisung PSAL\_01 bei der gegenwärtigen Revision durchgeführt:

Luogo / Data della saldatura:

Location / Date of Welding – Ort / Datum derSchweißung:R

Reggiolo (RE), 18/03/2026

Il tallone è stato saldato in presenza di:

Test piece was welded in the presence of – Prüfstück wurde geschweißt in Anwesenheit von:

IWS Enrico Monego

Le prove sono state eseguite in conformità alle norme:

The tests have been performed in accordance with the specifications – Die Prüfungen wurden entsprechend den Prüfgrundlagen durchgeführt:

see page 1/5

Si certifica che i saggi di prova sono stati preparati, saldati e controllati con esito soddisfacente in conformità ai requisiti del codice/norma di prova sopra indicato.

We certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of the code/standard above mentioned.

Hiermit wird bestätigt, daß die Prüfungsschweißungen in Übereinstimmung mit den Anforderungen der vorbezeichneten Vorschriften bzw. Prüfnormen zufriedenstellend vorbereitet, geschweißt und geprüft wurden.

Allegati - Annex - Anlage

WPS n°: **09R-2025 REV 0**

Mill certificate n°: **SSAB NR.75867K-001 del 17/04/2024; TENARIS NR.03-24-09693 del 14/11/2024**

Filler Metal Certificate n°: **SIAT nr.1462/2025/A del 14/03/2025**

Note:

1 Qualifica valida ai sensi della direttiva PED, Allegato 1, punto 3.1.2 – TÜV Italia Srl – Organismo Notificato 0948 / Welding procedure in according to PED, Annex 1, point 3.1.2 – TÜV Italia Srl – Notified Body 0948

2 - Il presente documento è conforme anche ai requisiti previsti dalla EN ISO 15614-1:2019 liv. 1 / This document also complies with the requirements of EN ISO 15614-1: 2019 liv. 1

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