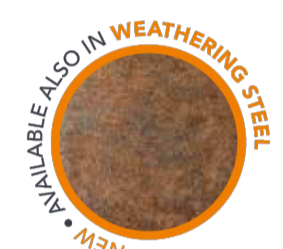
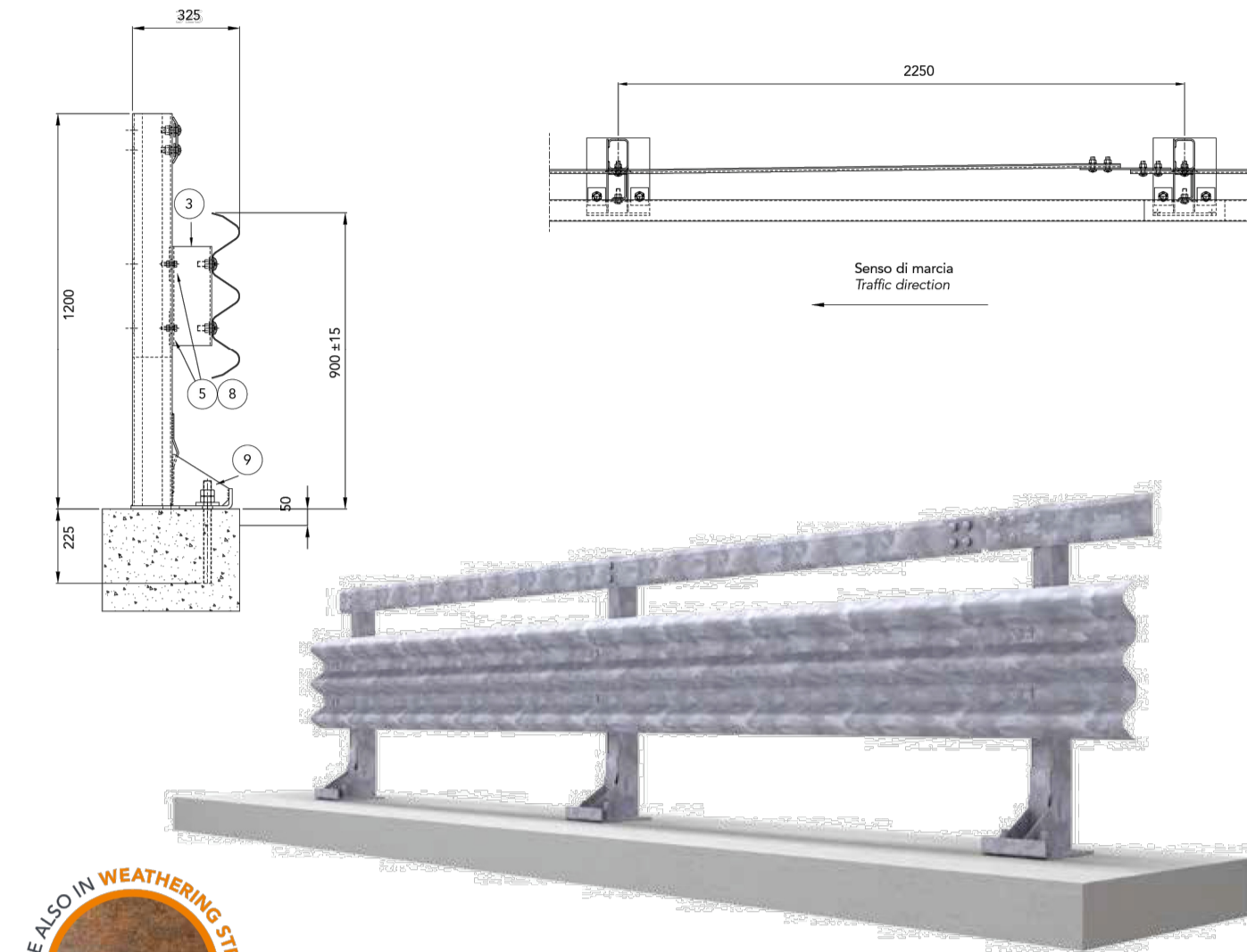


**CLASSE H2 BORDO PONTE - BARRIERA 3 ONDE PER MANUFATTO W4**

Class H2 Bridge side - 3-waves guardrail for bridge W4  
 3 Wellen Leitplanke auf Bräuwerk, Aufhaltestufe H2, Wirkungsbereich W4  
 Classe H2 Bord pont - Glissière 3 ondes simple pour pont W4  
 Classe H2 Bord de pont - Barriera de triple onda simple para base puente W4



**Caratteristiche** Characteristics, Eigenschaften, Caractéristiques, Características

Altezza barriera	Barrier height	Höhe Leitplanke	Hauteur glissière de sécurité	Altura barrera	1200 mm
Profondità d'infissione tirafondi	Depth of anchor bolts penetration	Einschraubtiefe der Verankerungen	Profundidad de anclaje varilla roscada		225 mm
Ingombro trasversale	Overall width	Gesamtbreite	Grosueur hors tout	Anchura total	325 mm
Interasse pali	Pier spacing	Stahlanabstand	Distance entre poteaux	Distancia entre postes	2250 mm

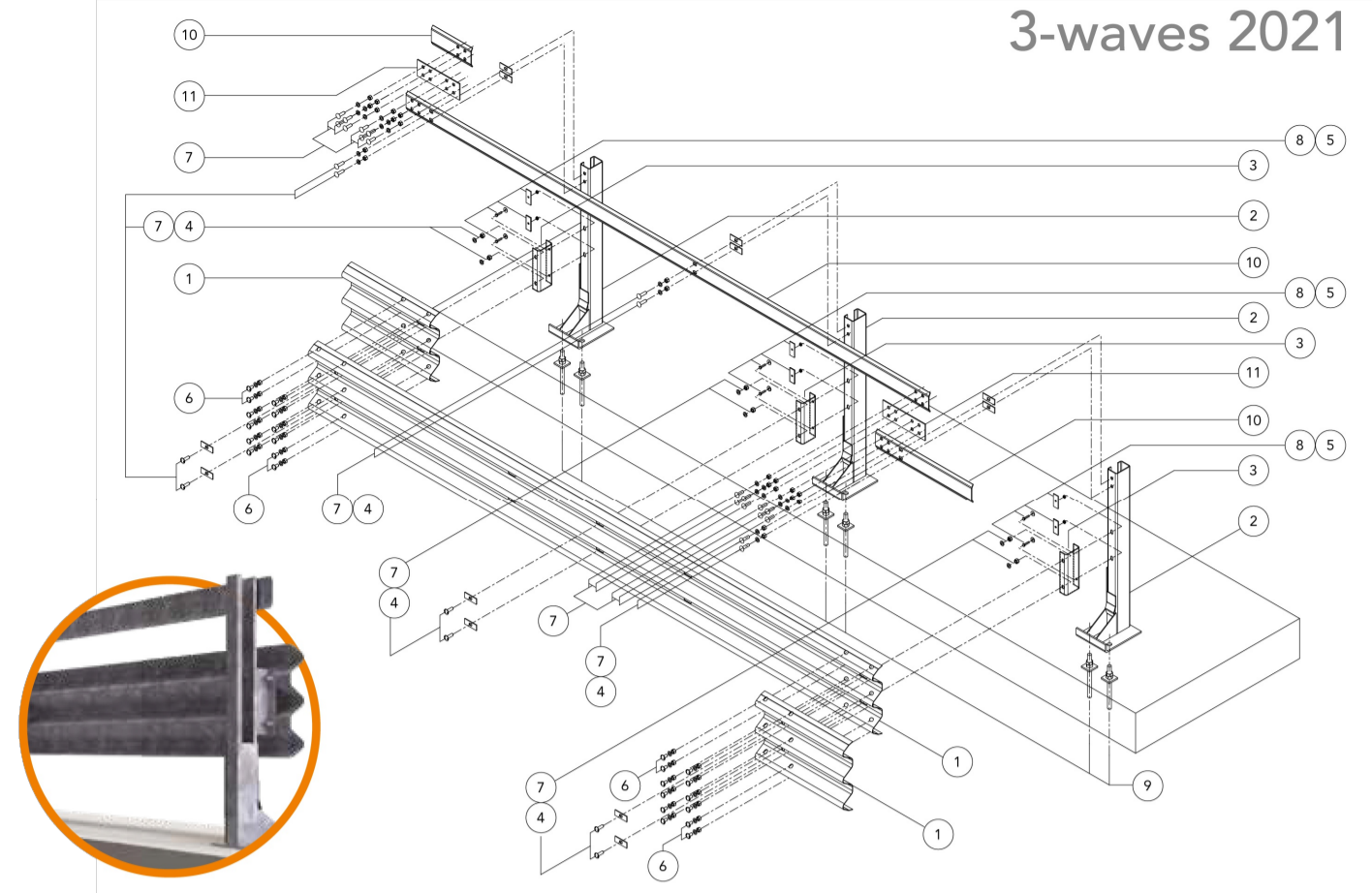
**Rapporti di prova** Crash test reports, Testberichte, Comptes rendus d'essais, Relaciones de pruebas

Test n.	Facility	Test	Type	Barrier length m	Mass kg	Speed km/h	ASI max 1.4	THIV max 33 km/h	D m	Vi m	W m
PROVA 2243	ASISCO	TB51	Laterale 20°	58,5	13000	70	-	-	1,2	1,7=V15	1,2=W14
PROVA 2244	ASISCO	TB11	Laterale 20°	58,5	900	100	-	-	32	-	0,4=W1

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**H2-W4**

3-waves 2021



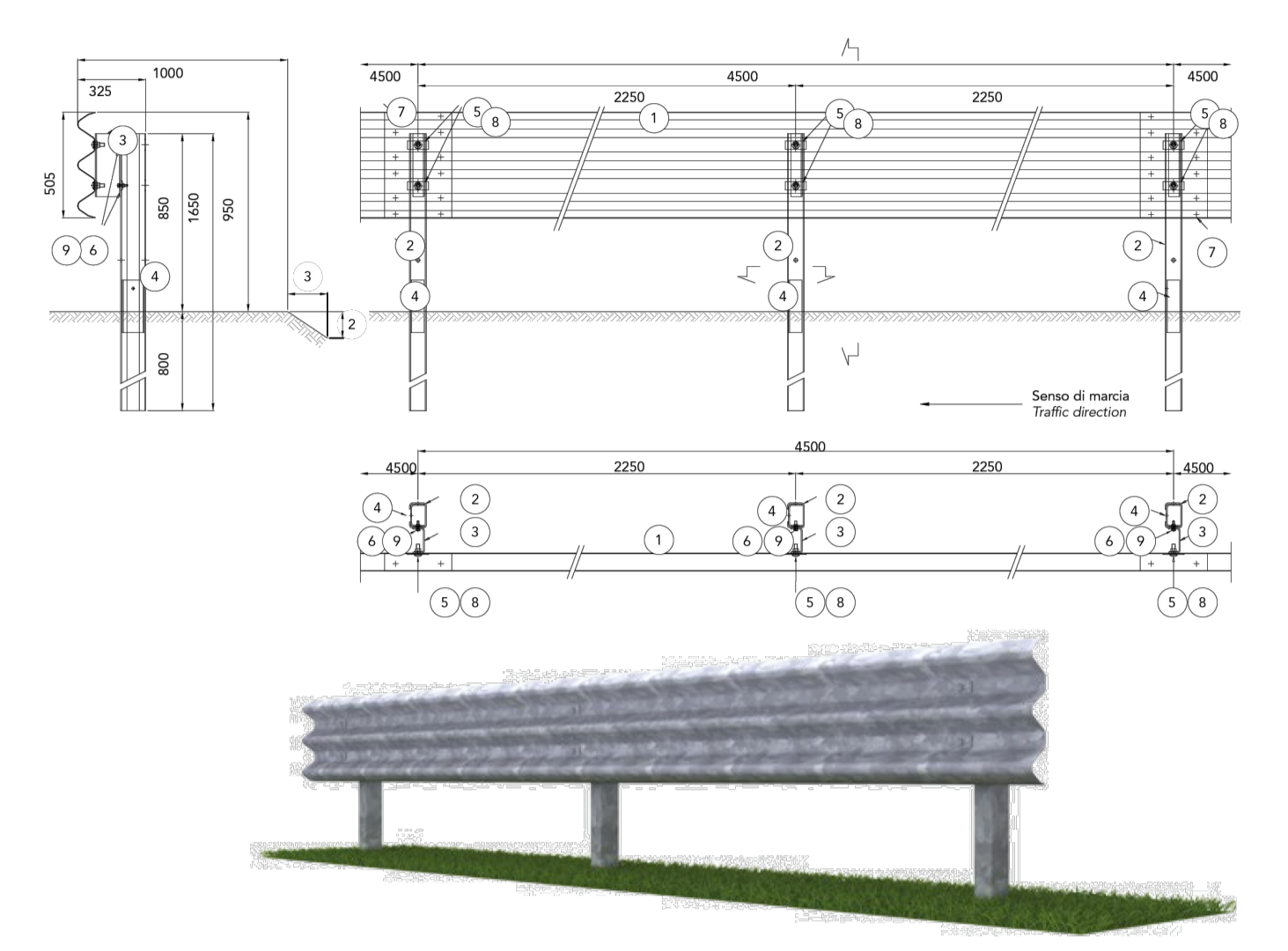
**Componenti** Components, Bauteile, Composants, Elementos

Descrizione - barriera in acciaio zincato	Description - galvanized steel barrier	Materiale	Material
11 Piatto di collegamento	Connection plate, Anzuschlagplatte, Plaque de connexion, Placa de unión	120x360 Th=4 mm	S 235 JR
10 Barriella superiore	Upper shaped plate, Oberer Bandstahl, Bande supérieure, Banda superior	140x440 Th=5 mm	S 355 JR
9 Tirafondo + dadi + 1 rondella	Anchor bolt + nuts + 1 washer, Verankerblechschraube + Mutter + 1 Unterlegscheibe, Tre-fond + écrou + 1 rondelle, Varilla Roscada + tuerca + 1 arandela	M24x315 mm	Classe 8.8
8 Bullone completo	Bolt with nut and washer, Schraube komplett, Bolón completo, Tornillo completo con tuerca y arandela	M10x40 mm	Classe 6.8
7 Bullone completo	Bolt with nut and washer, Schraube komplett, Bolón completo, Tornillo completo con tuerca y arandela	M16x30 mm	Classe 8.8
6 Bullone completo	Bolt with nut and washer, Schraube komplett, Bolón completo, Tornillo completo con tuerca y arandela	M16x30 mm	Classe 8.8
5 Piastrina M10	Plate, Plättchen, Plaque, Platinas	100x40 Th=4 mm	S 275 JR
4 Piastrina copriacida	Slot covering plate, Lochabdeckplatte, Plaque de couverture fente, Placa cubre-varna	100x40 Th=4 mm	S 275 JR
3 Distanziatore "U"	U-Spacer, U-Abstandshalter, Entrespois U, Separador "U"	120x55 Th=5 mm L=300 mm	S 355 JOWP
2 Palo con piastra	Rectangular tube post with base plate, Vierkantrohrstahler mit Grundplatte, Pilone tubolare con piastra, Poste de tubon con plate	120x80x30 Th=5 mm L=1200 mm	S 275 JR
1 Fascia 3 onde	3-waves beam, 3 wellige Leitplanche, Glissière 3 ondes, Banda triple onda	L=4816 (2250x2) Th=2,5 mm	S 355 JR

2131/CR6/947 Marcegaglia Buildtech 93

**Classe H2 Bordo Laterale - Barriera 3 onde singola su rilevato W4 con arginello**

Class H2 roadside - 3 waves single sided guardrail W4, with shoulder  
 Gerantrieb 3 Wellen Leitplanke, Aufhaltestufe H2, Wirkungsbereich W4, auf dem Bankett  
 Classe H2 Bord lateral - Glissière 3 ondes simple sur remblai W4, avec terre plein  
 Classe H2 Bordo lateral - Barriera de triple onda simple sobre base terreno W4, con terraplén



**Caratteristiche** Characteristics, Eigenschaften, Caractéristiques, Características

Altezza fuori terra	Height above ground level	Höhe über Grundboden	Hauteur hors sol	Altura sobre el suelo	950 mm
Profondità d'infissione	Depth of penetration	Ranmitiefe	Profondeur de pénétré du poteau	Longitud de hincada	800 mm
Ingombro trasversale	Overall width	Gesamtbreite	Grosueur hors tout	Anchura total	325 mm
Interasse pali	Pier spacing	Stahlanabstand	Distance entre poteaux	Distancia entre postes	2250 mm

**Rapporti di prova** Crash test reports, Testberichte, Comptes rendus d'essais, Relaciones de pruebas

Test n.	Facility	Test	Type	Barrier length MTL	Mass kg	Speed km/h	ASI max 1.4	THIV max 33 km/h	D m	Vi m	W m
PROVA 1988	ASISCO	TB51	Laterale 20°	63,00	13000	70	-	-	1,2	1,3=V14	1,3=W14
PROVA 1996	ASISCO	TB11	Laterale 20°	63,00	900	100	1=A	31	0,4	-	0,7=W2

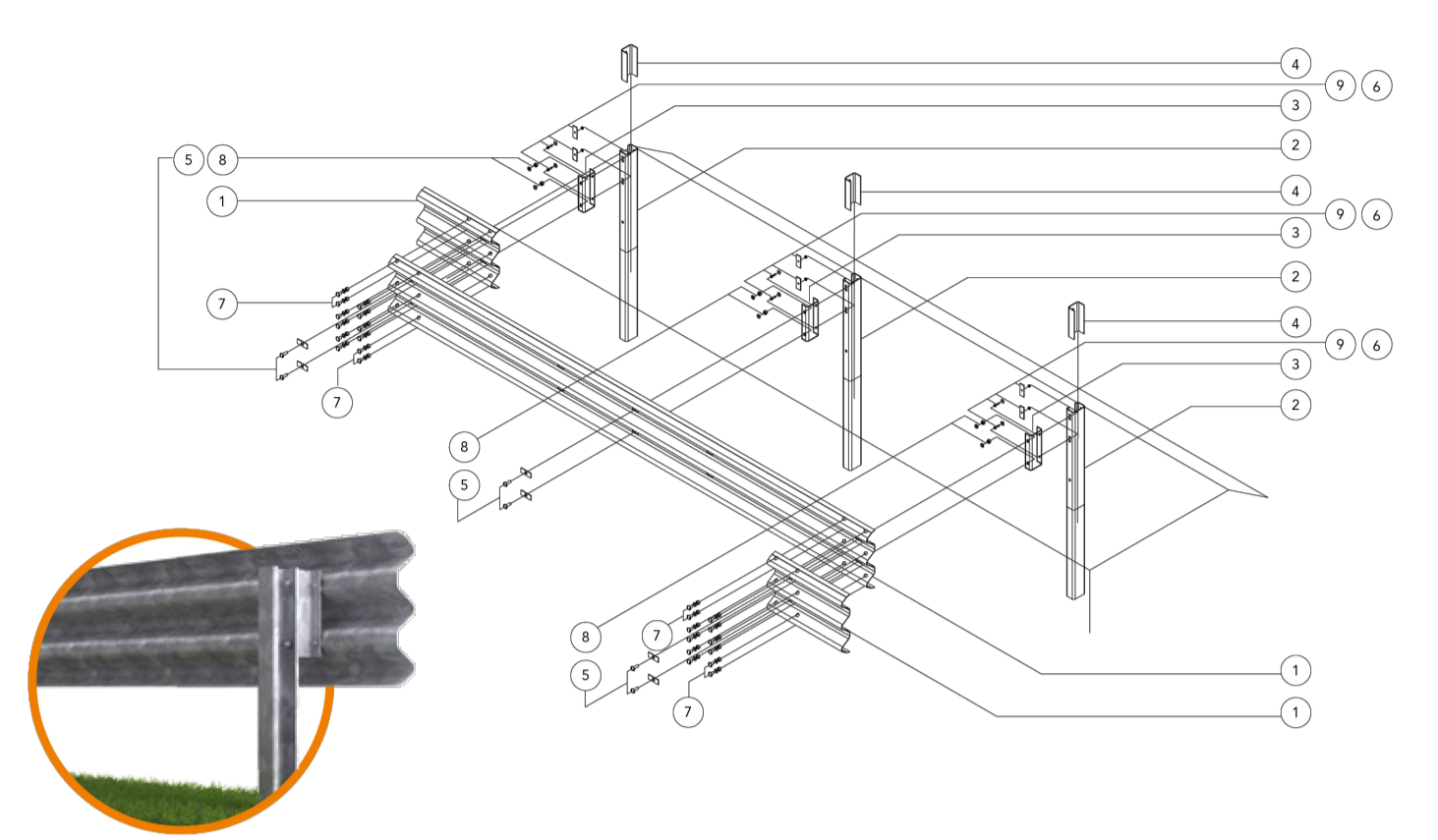
825/2131/CR6/200 Marcegaglia Buildtech

**H2-W4**

NEW 3-waves

Sales office: MARCEGAGLIA BUILDTECH guardrail division  
 strada Roveri, 4  
 15060 Pozzolo Formigaro, Alessandria - Italy  
 phone +39 0143 77 61 + fax +39 0143 77 63 53  
 guardrail@marcegaglia.com  
 www.marcegaglia-buildtech.it

Plant: MARCEGAGLIA BUILDTECH Pozzolo Formigaro  
 strada Roveri, 4  
 15060 Pozzolo Formigaro, Alessandria - Italy  
 phone +39 0143 77 61 + fax +39 0143 77 63 53



**Componenti** Components, Bauteile, Composants, Elementos

Descrizione - barriera in acciaio zincato	Description - galvanized steel barrier	Materiale	Material
9 Bullone completo	Bolt with nut and washer, Schraube komplett, Bolón completo, Tornillo completo con tuerca y arandela	M10x40 mm	Classe 6.8
8 Bullone completo	Bolt with nut and washer, Schraube komplett, Bolón completo, Tornillo completo con tuerca y arandela	M16x30 mm	Classe 8.8
7 Piastrina	Plate, Plättchen, Plaque, Platinas	M10 100x40 Th=4 mm	S 275 JR
6 Piastrina copriacida	Slot covering plate, Lochabdeckplatte, Plaque de couverture fente, Placa cubre-varna	100x40 Th=4 mm	S 275 JR
5 Elemento a "U"	"U" Element, Element "U", Element "U", Element "U"	104x65 Th=5 L=250 mm	S 275 JR
4 Distanziatore "U"	U-Spacer, U-Abstandshalter, Entrespois U, Separador "U"	120x55 Th=5 L=300 mm	S 275 JR
3 Palo "C"	C-post, C-Posten, Postes en C, Poste "C"	120x80x30 Th=5 L=1450 mm	S 275 JR
2 Palo "C"	C-post, C-Posten, Postes en C, Poste "C"	L=4816 Th=2.5 mm	S 355 JR
1 Fascia 3N	3N beam, 3N Leitplanche, Glissière 3N, Banda 3N	L=4816 Th=2.5 mm	S 355 JR

825/2131/CR6/200 Marcegaglia Buildtech

**Accessori - Accessories**

**TERMINALI STANDARD**

Standard end terminal  
 Standardendstück  
 Extrémité standard  
 Terminal estándar

**Terminale a tubo 2 onde**  
 2 waves fish tail  
 2 Wellen Fishtail-Endstück  
 Extrémité à queue de carpe 2 ondes  
 Terminal cola de pez bi-onda



material	cod.
ZC	5960314

**Terminale a tubo 2 onde**  
 2 Wellen Fishtail-Endstück mit Endrohr  
 Glissière tubulaire d'extrémité 2 ondes  
 Terminal tubular bi-onda



material	cod.
ZC	5960442

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**Terminale a marina 3 onde**  
 3 waves fish tail  
 3 Wellen Fishtail-Endstück  
 Extrémité à queue de carpe 3 ondes  
 Terminal cola de pez triple-onda



material	cod.
ZC	5960316

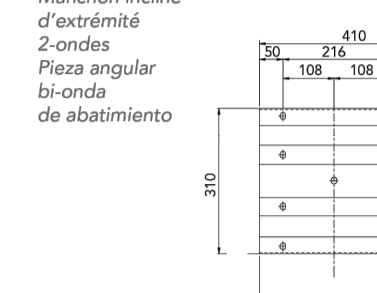
**Terminale a tubo 3 onde**  
 3 Wellen Fishtail-Endstück mit Endrohr  
 Glissière tubulaire d'extrémité 3 ondes  
 Terminal tubular triple-onda



material	cod.
ZC	5960318

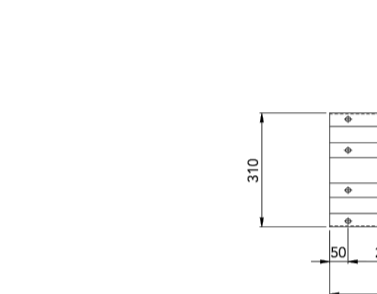
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**Terminale angolare per mitred 2 onde**  
 2 waves angle beam  
 2 Wellen Endabsenkung  
 Mitré Winkelverbindung  
 Manchón incliné d'extrémité 2 ondes  
 Píez angular triple-onda de abatemento



material	cod.
ZC	5960329

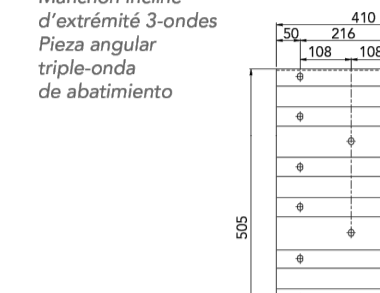
**Terminale piatto per cemento 2 onde**  
 Flat 2 waves end terminal for concrete  
 2 Wellen Fischer-Endstück für Beton/Wand  
 Extrémité à queue de carpe plate 2 ondes  
 Terminal plano bi-onda



material	cod.
ZC	5960356

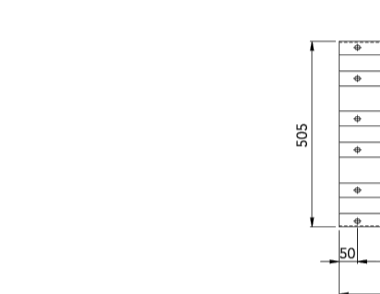
Marcegaglia Buildtech

**Terminale angolare per mitred 3 onde**  
 3 waves angle beam  
 3 Wellen Endabsenkung  
 Mitré Winkelverbindung  
 Manchón incliné d'extrémité 3 ondes  
 Píez angular triple-onda de abatemento



material	cod.
ZC	5960311

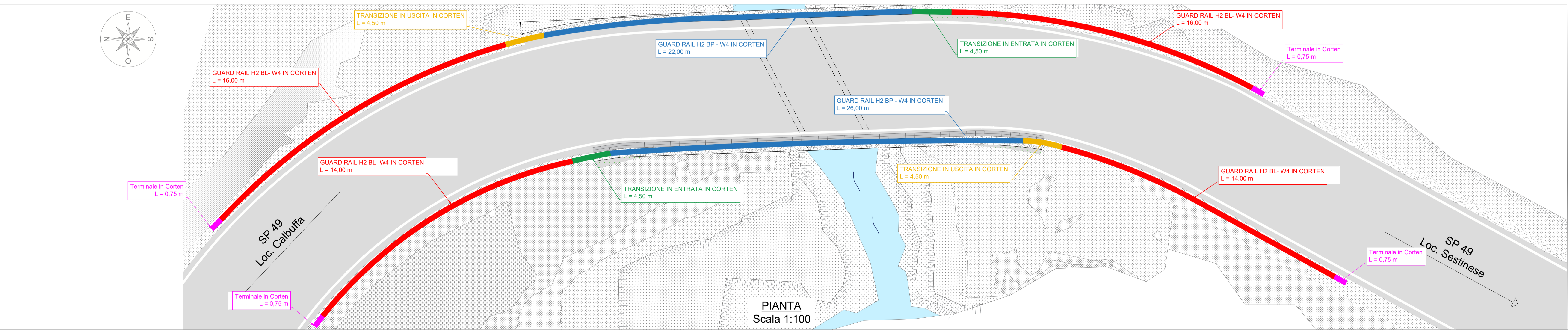
**Terminale piatto per cemento 3 onde**  
 Flat 3 waves end terminal for concrete  
 3 Wellen Fischer-Endstück für Beton/Wand  
 Extrémité à queue de carpe plate 3 ondes  
 Terminal plano triple-onda



material	cod.
ZC	5960311

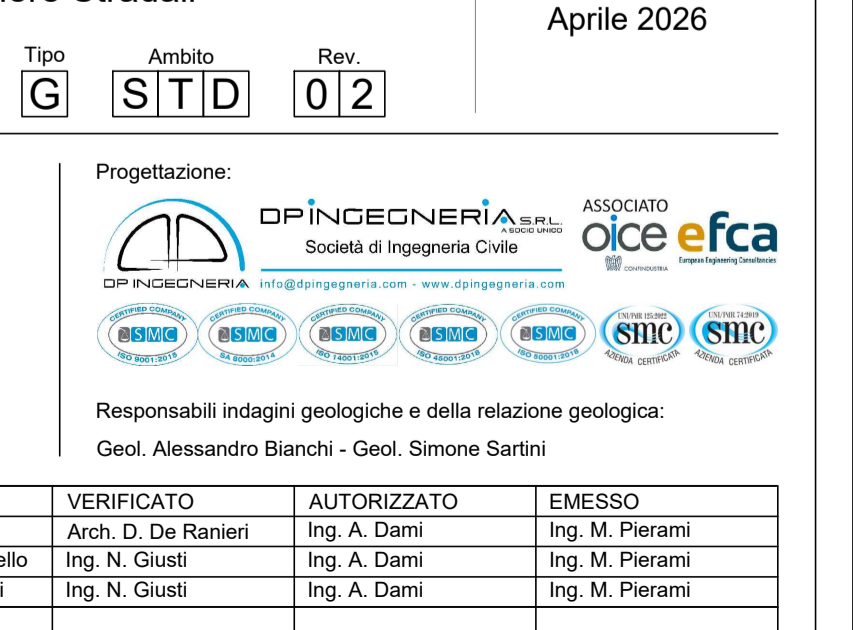
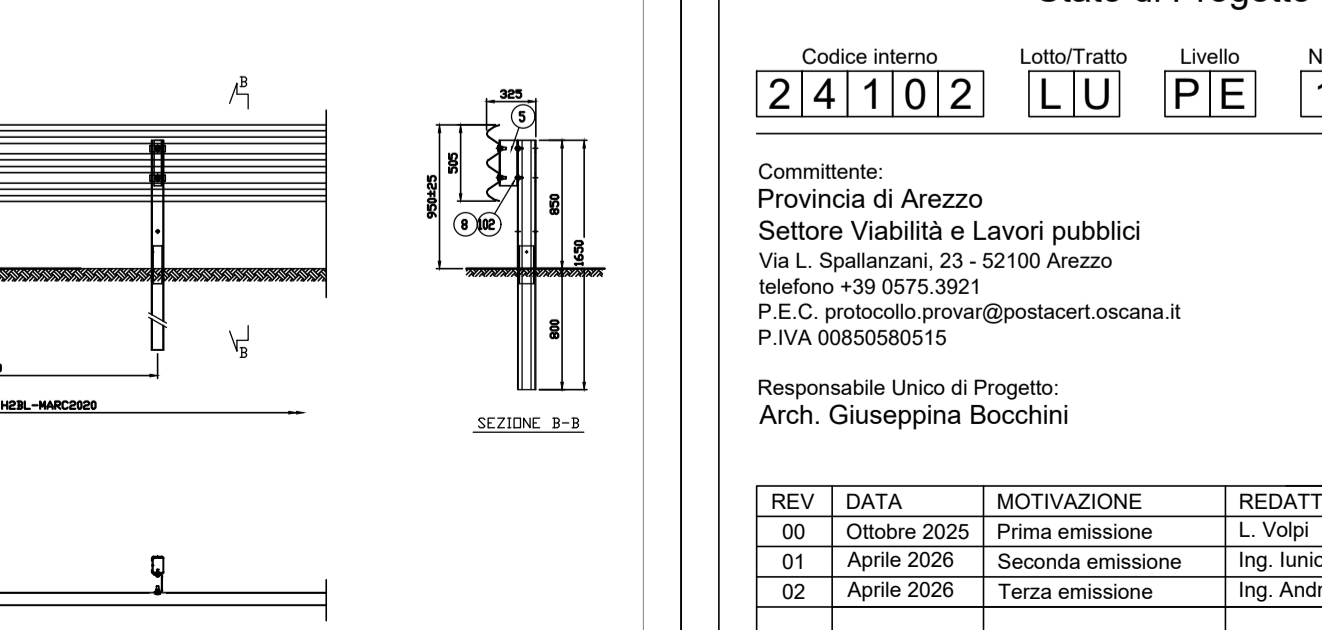
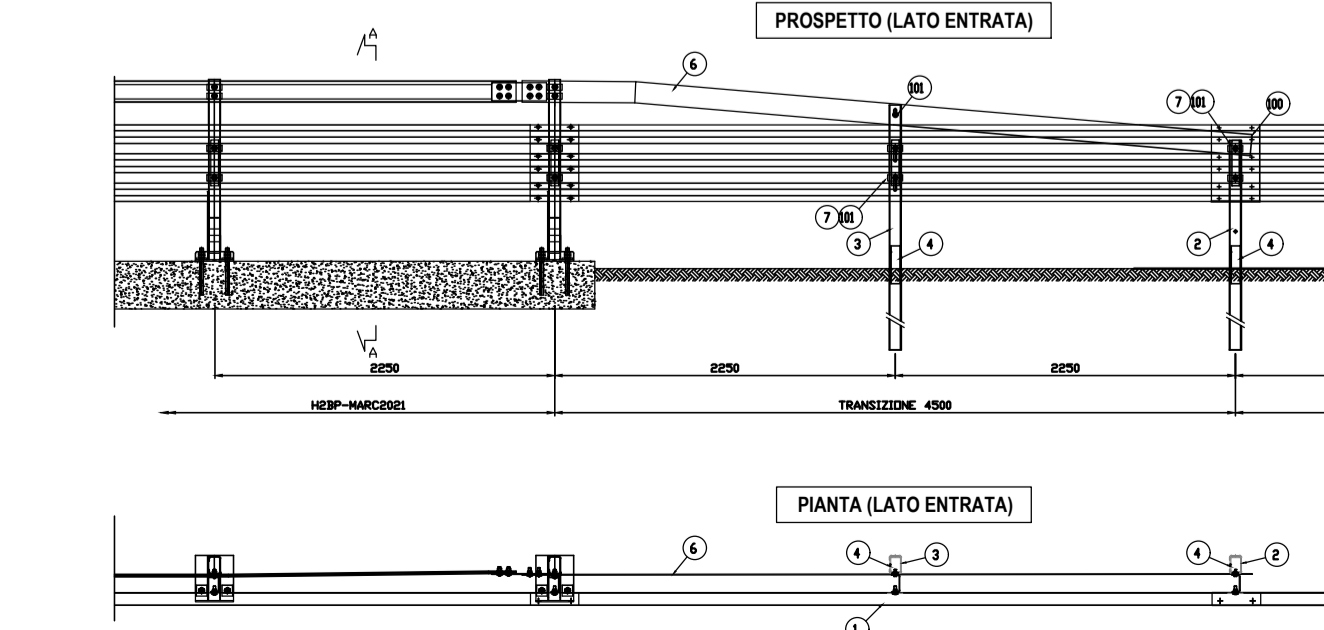
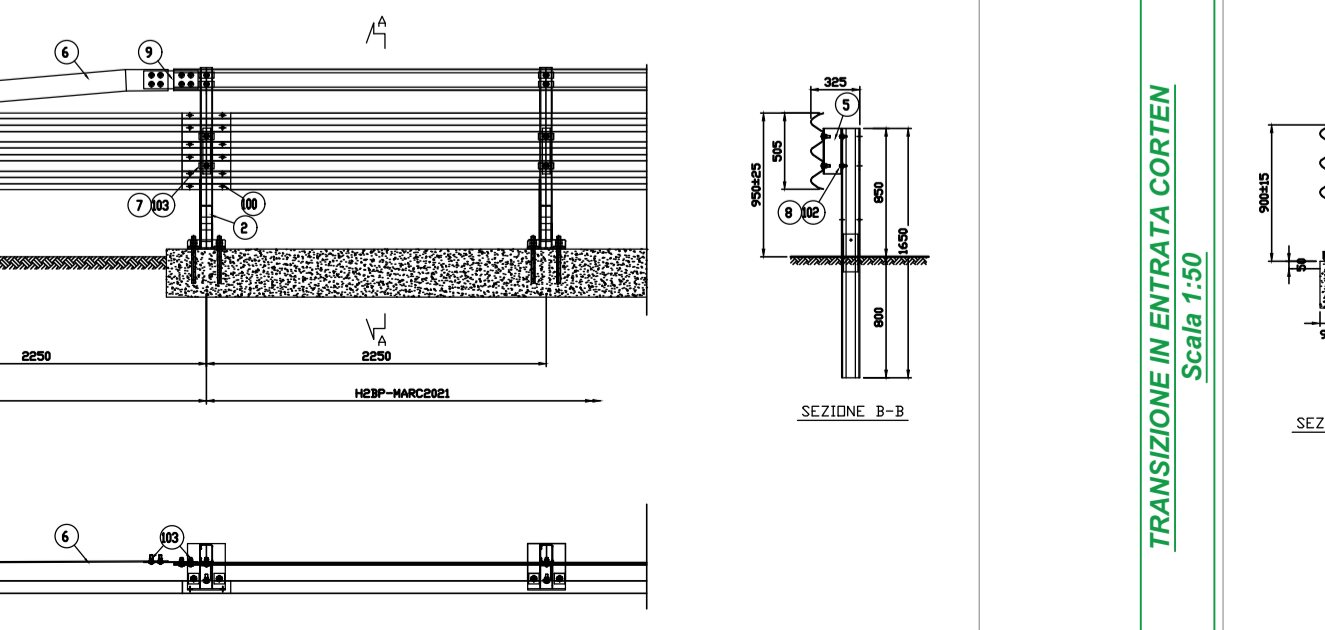
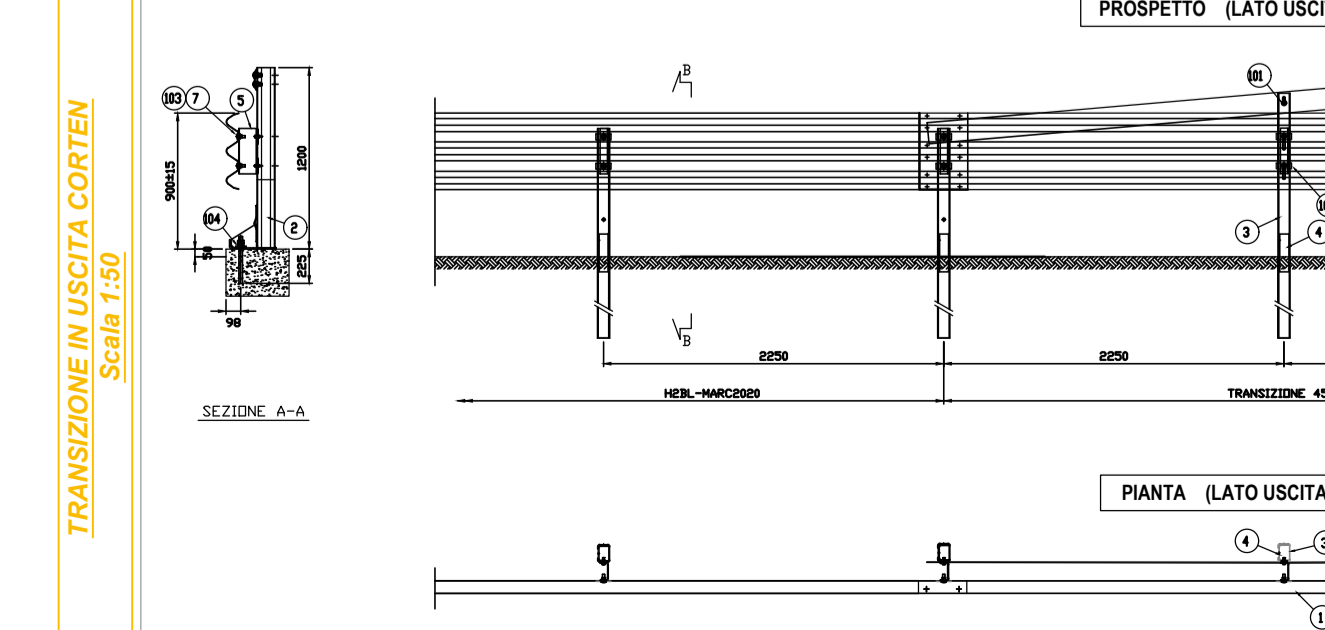
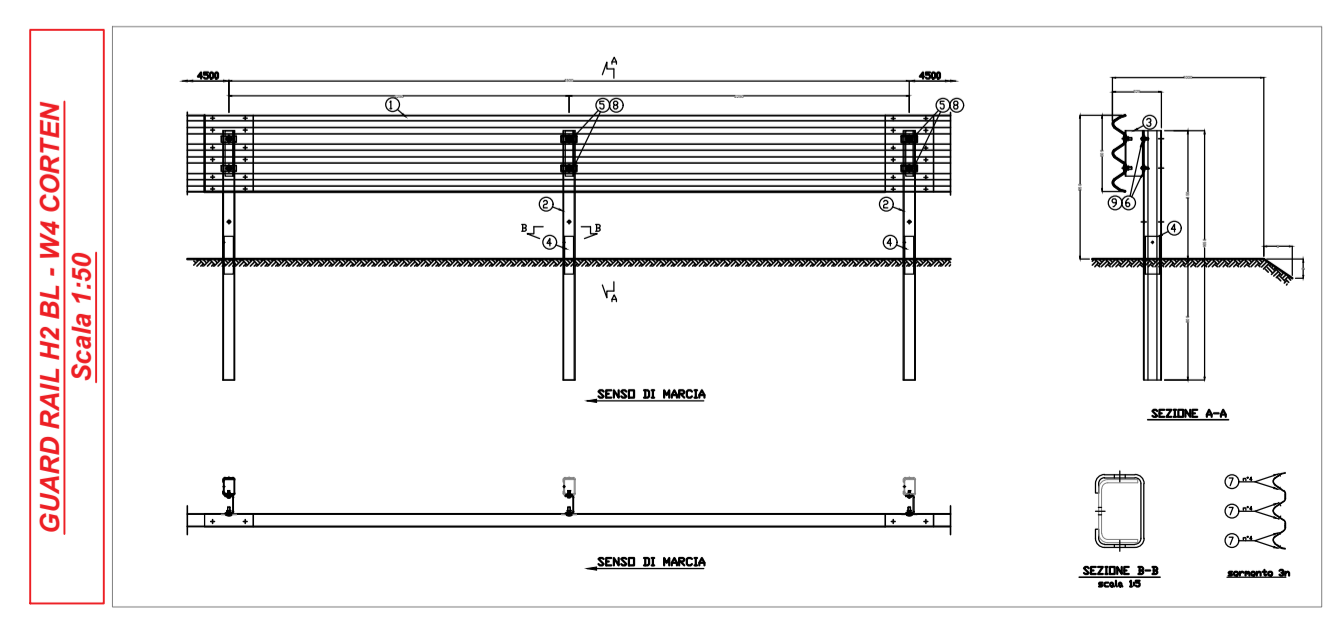
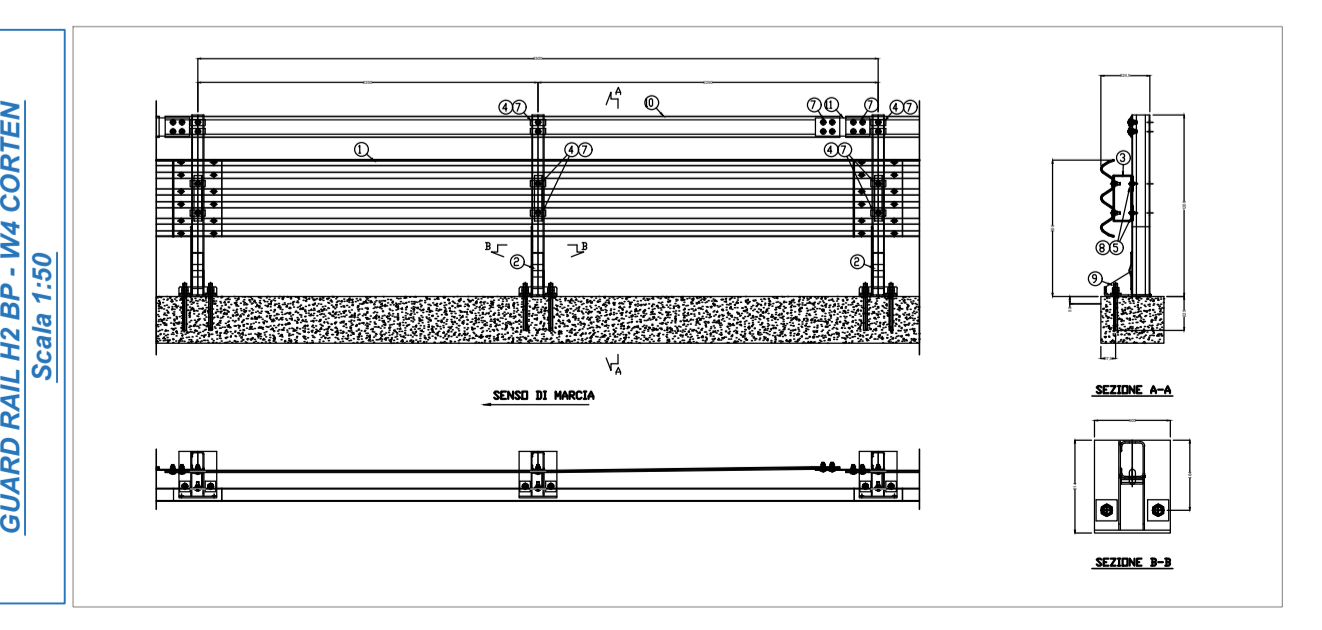
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Different typology of terminal are available according to real requests  
 Different types of end terminal might be produced according to the requirements



**- LEGENDA -**

- H2 BL - W4
- H2 BP - W4 - MARC 2021
- Transizione in entrata
- Transizione in uscita
- Terminale



**PROVINCIA DI AREZZO**

Lavori di manutenzione straordinaria di ripristino del ponte sulla S.P.49 Sestinese, km. 2+730, località Calabuffa, Comune di Sestino  
 CIG 9880901972 CUP I77H21003210001

**PROGETTO ESECUTIVO**

Descrizione elaborato: Stato di Progetto - Barriere Stradali

Data: Aprile 2026

Codice interno	Lotto/Tratto	Livello	Numero	Tipo	Ambito	Rev.
241102	LU	PE	13	G	STD	02

Committee: Provincia di Arezzo  
 Settore Viabilità e Lavori pubblici  
 Via L. Spallanzani, 23 - 52100 Arezzo  
 telefono +39 0575 2921  
 P.E.C. protocollo.prova@postacert.osana.it  
 P.IVA 00850580515

Responsabile Unico di Progetto: Arch. Giuseppina Bocchini

Progettazione: DPINGENERIA S.p.A. Società di Ingegneria Civile  
 ASSOCIATO OCE e fca

Responsabili indagini geologiche e della relazione geologica: Geol. Alessandro Bianchi - Geol. Simone Santini

REV	DATA	MOTIVAZIONE	REDATTO	VERIFICATO	AUTORIZZATO	EMESISO
00	Ottobre 2025	Prima emissione	L. Vigni	Arch. D. De Ranieri	Ing. N. Giusti	Ing. M. Piarani
01	Aprile 2026	Seconda emissione	Ing. Iunior E. Iannielo	Ing. N. Giusti	Ing. A. Dami	Ing. M. Piarani
02	Aprile 2026	Terza emissione	Ing. Andrea Pardini	Ing. N. Giusti	Ing. A. Dami	Ing. M. Piarani