

## **DSI Underground – Declaration of Performance**

No. HBS-2025-001 R32-400

1. Product type:

Self-drilling soil and rock nails

DSI® Hollow Bar System R32-400

2. Intended use/es:

Soil and rock nails are intended to stabilise soil and rock by the installation of passive tensile elements.

3. Manufacturer:

DSI Underground Austria GmbH Alfred-Wagner-Straße 1, 4061 Pasching / Linz, Austria

4. System of assessment and verification of constancy of performance:

1+

5. European Assessment Document:

EAD 160088-00-0102

6. European Technical Assessment:

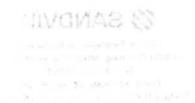
ETA-21/0869 of 2.8.2022

7. Technical Assessment Body (TAB):

Austrian Institute of Construction Engineering Schenkenstrasse 4, 1010 Vienna, Austria

8. Accredited certification body (NB 1379):

**Technical University of Graz** 





## 9. Declared performance/s:

		Intended Use		
	Essential characteristic	Temporary Soil and	Permanent Soil and Rock Nail	
		Rock Nail		Hot-dip galvanised Soil
			Bare Soil and Rock Nail	and Rock Nail
	Resistance to static load of	F <sub>p0.2, nom</sub> : 330 kN, F <sub>m, nom</sub> : 400 kN, Slip at 65 % F <sub>p0.2, nom</sub> coupling: 0.9 mm,		
1	anchorages and coupler assemblies	anchorage: 0.3 mm		
2	Resistance to fatigue of anchorages and coupler assemblies	F <sub>p0.2, nom</sub> : 330 kN, 2σ <sub>a</sub> : 80 N/mm <sup>2</sup>		
3	Load transfer to structure	f <sub>cm, o</sub> : 38 N/mm², F <sub>m, nom</sub> : 400 kN		
4	Corrosion protection for temporary rock and soil nails	Cover of cement grout mortar ≥ 15mm Attachment 1, Figure 1		-
	Corrosion protection, sacrificial corrosion allowance for permanent	-	Sacrificial corrosion Attachment 1, Figure 1,	-
5	rock and soil nails		Attachment 1, Table 1	
	Corrosion protection, sacrificial corrosion allowance for hot-dip			Sacrificial corrosion
	galvanised permanent rock and soil		-	Attachment 1, Figure 1,
6	nails			Attachment 1, Table 2
-	Impact energy and torque	E <sub>s</sub> : 140 Joule, M <sub>t</sub> : 620 Nm to E <sub>s</sub> : 200 Joule, M <sub>t</sub> : 450 Nm		
	Hollow bar of welded steel tube			
8	Shape	Figure 2		
9	Dimensions	Diameter External: 31.1 mm, Internal: 12.5 mm		
10	Surface geometry	Rope thread, pitch 12.7 mm, average thread height 1.6 mm, $f_{\text{R}}$ : 0.13		
11	Mass per metre	4.40 kg/m, deviation: – 4.5 % to + 12 %		
12	Cross sectional area	560 mm²		
13	Strength characteristics	$F_{p0.2, nom}$ : 330 kN, $F_{m, nom}$ : 400 kN, $F_{m}/F_{p0.2}$ : $\geq 1.15$		
14	Elongation at maximum force	A <sub>gt</sub> ≥ 5 %		
15	Modulus of elasticity	205 000 N/mm²		
16	Weld at flattening	No cracking at close flattening prior to rolling		
17	Weld at drift expansion	No cracking at relative expansion ≥ 110 % with 60 ° mandrel prior to rolling		
18	Resistance to fatigue	F <sub>p0.2, nom</sub> : 330 kN, 2σ <sub>a</sub> : 190 N/mm², 2 000 000 cycles		
19	Bond strength	τ <sub>a</sub>	<sub>k</sub> : 5.1 N/mm², f <sub>cm</sub> : 55 N/n	nm²
20	Hot-dip galvanising	-	-	≥ 85 µm

The performance of the product identified above is in conformity with the set of declared performance/s.

Signed for and on behalf of the manufacturer by:

