

DSI Underground – Declaration of Performance

No. HBS-2025-001 R38-420

1. Product type:

Self-drilling soil and rock nails

DSI® Hollow Bar System R38-420

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:

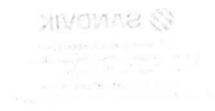
ETA-21/0869 of 2.8.2022

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 _{p0.2, nom} : 350 kN, F _{m, nom} : 420 kN, Slip at 65 % F _{p0.2, nom} coupling: 0.9 mm,		
1	anchorages and coupler assemblies	anchorage: 0.3 mm		
2	Resistance to fatigue of anchorages and coupler assemblies	F _{p0.2, nom} : 350 kN, 2σ _a : 80 N/mm ²		
3	Load transfer to structure	f _{cm, 0} : 38 N/mm², F _{m, nom} : 420 kN		
4	Corrosion protection for temporary rock and soil nails	Cover of cement grout mortar ≥ 15mm - Attachment 1, Figure 1		
5	Corrosion protection, sacrificial corrosion allowance for permanent rock and soil nails	-	Sacrificial corrosion Attachment 1, Figure 1, Attachment 1, Table 1	-
6	Corrosion protection, sacrificial corrosion allowance for hot-dip galvanised permanent rock and soil nails		-	Sacrificial corrosion Attachment 1, Figure 1, Attachment 1, Table 2
7	Impact energy and torque	E _s : 140 Joule, M _t : 1000 Nm to E _s : 200 Joule, M _t : 730 Nm		
	Hollow bar of welded steel tube			
8	Shape	Figure 2		
9	Dimensions	Diameter External: 37.8 mm, Internal: 21.5 mm		
10	Surface geometry	Rope thread, pitch 12.7 mm, average thread height 1.6 mm, f _R : 0.13		
11	Mass per metre	5.15 kg/m, deviation: -4.5 % to +12 %		
_	Cross sectional area	660 mm²		
_	Strength characteristics	$F_{p0.2, nom}$: 350 kN, $F_{m, nom}$: 420 kN, $F_{m}/F_{p0.2}$: ≥ 1.15		
-	Elongation at maximum force	A _{gt} ≥ 5 %		
$\overline{}$	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 _{p0.2, nom} : 350 kN, 2σ _a : 190 N/mm ² , 2 000 000 cycles		
19	Bond strength	τ _{ak} : 5.1 N/mm², f _{cm} : 55 N/mm²		
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:



Dipl.-Ing. Dominik Johannes Dendl

Pasching, on 15.04.2025