

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

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European Technical Assessment

ETA-13/0846
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General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

NONTRIBOS® VZ-Inject

Product family
to which the construction product belongs

Special filling products for post-tensioning kits

Manufacturer

August Gähringer GmbH & Co. KG
Fabrik technischer Öle & Fette
Königgrätzer Straße 14- 34
47053 Duisburg
DEUTSCHLAND

Manufacturing plant

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Königgrätzer Straße 14- 34
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This European Technical Assessment
contains

5 pages

This European Technical Assessment is
issued in accordance with Regulation (EU)
No 305/2011, on the basis of

EAD 160027-00-0301

This version replaces

ETA-13/0846 issued on 19 June 2013

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Specific part

1 Technical description of the product

The wax NONTRIBOS® VZ-Inject is a filling material for Post-Tensioning System in accordance to EAD 160027-00-0301. It is a ready to use product, based on a blend of mineral oils, wax and additives.

NONTRIBOS® VZ-Inject is solid at room temperature and is heated for injection. When heated above the melting point, it turns into a liquid state with a low viscosity. When it cools down it solidifies again.

2 Specification of the intended use in accordance with the applicable European Assessment Document "EAD 160027-00-0301 Special Filling Products for Post-tensioning Kits"

2.1 Intended use

NONTRIBOS® VZ-Inject is intended for use as a filling compound to ensure the permanent corrosion protection of steel tension members of post-tensioning kits. It is classified as a wax.

2.2 working life

However, in accordance with EAD 160027-00-0301, Section 1.2.2.2, the current knowledge and the state of the art are not sufficient to ensure a working life of 100 years for the wax and filling materials based on the verification and assessment methods used in this EAD.

As a result the wax assessed in this ETA is only suitable for use with interchangeable tendons or individually protected and sheathed strands (so-called monostrands). The EAD also provides that the wax is inspectable and fully replaceable.

The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, but are to be regarded only as means of choosing the right product in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

The performance of the product has been assessed in accordance with EAD 160027-00-0301.

3.1 Mechanical resistance and stability (BWR 1)

These details relate to permanent corrosion protection of steel tension members of post-tensioning kits, which ensure the mechanical resistance and stability of the structure.

No.	Essential characteristic	Performance
13	Congealing point (in accordance with ISO 2207 at least 65°C)	68,5°C
14	Heat resistance, dropping point (in accordance with ISO 2176 at least 60°C)	68°C (automated method)
15	Heat resistance, flash point (in accordance with ISO 2592 at least 250°C)	300°C (COC)
16	Consistency (cone penetration in accordance with ISO 2137 at 25°C less than 12,5mm)	2,1mm (unworked penetration)
17	Cold resistance (cone penetration in accordance with ISO 2137 at -40°C without cracks)	-40°C
18	Stability (less than 1% oil separation after 168h at 40°C in accordance with BS 2000-121)	less than 0,2%
19	Oxidation stability (pressure drop less than 0,03MPa after 100h at 100°C in accordance with ASTM D942)	less than 0,02MPa
20	Corrosion protection I (copper strip test 100h at 100°C in accordance with ISO 2160, class 1A)	class 1a
21	Corrosion protection II (copper strip, layer of wax max. 125µm; no corrosion after 168h or 1000h at 35°C, natural salt spray in accordance with ISO 9227)	no corrosion after 168h
22	Corrosion protection III (steel strip, layer of wax max. 125µm; no corrosion after 168h or 1000h at 35°C, distilled water spray in accordance with ISO 9227)	no corrosion after 168h
23	Corrosion protection IV (steel strip, one half immersed in 5% salt solution, the other half in 5%-saltfog at 37,8°C, no emulsion after 720h in accordance with ISO 9227)	no emulsion after 720h
24	Content of aggressive elements (test method according NFM 07-023, measurement with ion chromatography, - Cl- ≤ 50ppm in accordance with EN ISO 10304-4, - S ²⁻ ≤ 50ppm, - NO ₃ ⁻ ≤ 50ppm in accordance with EN ISO 10304-1 - SO ₄ ²⁻ ≤ 100ppm in accordance with EN ISO 10304-1)	- Cl < 20ppm - S ²⁻ < 10ppm - NO ₃ < 10ppm - SO ₄ ²⁻ < 20ppm
25	Kinematic viscosity (at injection temperature in accordance with EN ISO 3104)	24,1mm ² /s at 100°C
26	Possible interaction with PE-duct in accordance with ISO 175 (16 weeks at 23°C, without changing the wax every week)	specimen: PE-duct DN 22 x 2,6mm black, thickness reduced mechanical to 1,1mm. tensile strenght: +0,97% elongation: +3,62% volume: -0,1%-0,32%

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3.2 Safety in case of fire (BWR 2)

No.	Essential characteristic	Performance
29	Reaction to fire (classification in accordance with EN 13501-1)	no performance assessed

3.3 Hygiene, health and the environment (BWR 3)

No.	Essential characteristic	Performance
30	Content, emission and/or release of dangerous substances	no performance assessed

In addition to the specific provisions of this European Technical Assessment relating to dangerous substances, products within the scope of this Assessment may be subject to further requirements (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to comply with the provisions of the Construction Products Regulation, these requirements may also have to be met.

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with Commission Decision 98/456/EC of 3 July 1998 the system of assessment and verification of constancy of performance (see Annex V and Article 65 Paragraph 2 to Regulation (EU) No 305/2011) to be applied is: 1+.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

The technical details necessary for the implementation of the AVCP system are laid down in EAD 160027-00-0301, Clause 3.

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beglaubigt:
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