



European Technical Approval ETA-13/0846

English translation prepared by DIBt - Original version in German language

Handelsbezeichnung <i>Trade name</i>	NONTRIBOS® VZ-Inject
Zulassungsinhaber <i>Holder of approval</i>	August Gähringer Carl Gähringer e.K. Fabrik technischer Öle & Fette Königgrätzer Straße 14- 34 47053 Duisburg DEUTSCHLAND
Zulassungsgegenstand und Verwendungszweck <i>Generic type and use of construction product</i>	Korrosionsschutzwachs für Spannglieder <i>Corrosion protection for prestressing tendons</i>
Geltungsdauer: <i>Validity:</i>	vom <i>from</i> 19 June 2013 bis <i>to</i> 19 June 2018
Herstellwerk <i>Manufacturing plant</i>	August Gähringer Carl Gähringer e.K. Fabrik technischer Öle & Fette Königgrätzer Straße 14- 34 47053 Duisburg DEUTSCHLAND

Diese Zulassung umfasst
This Approval contains

7 Seiten
7 pages

I LEGAL BASES AND GENERAL CONDITIONS

- 1 This European technical approval is issued by Deutsches Institut für Bautechnik in accordance with:
 - Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products¹, modified by Council Directive 93/68/EEC² and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council³;
 - *Gesetz über das In-Verkehr-Bringen von und den freien Warenverkehr mit Bauprodukten zur Umsetzung der Richtlinie 89/106/EWG des Rates vom 21. Dezember 1988 zur Angleichung der Rechts- und Verwaltungsvorschriften der Mitgliedstaaten über Bauprodukte und anderer Rechtsakte der Europäischen Gemeinschaften (Bauproduktengesetz - BauPG) vom 28. April 1998⁴, as amended by Article 2 of the law of 8 November 2011⁵;*
 - Common Procedural Rules for Requesting, Preparing and the Granting of European technical approvals set out in the Annex to Commission Decision 94/23/EC⁶;
 - Guideline for European technical approval of "Post-tensioning kits for prestressing of structures", ETAG 013.
- 2 Deutsches Institut für Bautechnik is authorized to check whether the provisions of this European technical approval are met. Checking may take place in the manufacturing plant. Nevertheless, the responsibility for the conformity of the products to the European technical approval and for their fitness for the intended use remains with the holder of the European technical approval.
- 3 This European technical approval is not to be transferred to manufacturers or agents of manufacturers other than those indicated on page 1, or manufacturing plants other than those indicated on page 1 of this European technical approval.
- 4 This European technical approval may be withdrawn by Deutsches Institut für Bautechnik, in particular pursuant to information by the Commission according to Article 5(1) of Council Directive 89/106/EEC.
- 5 Reproduction of this European technical approval including transmission by electronic means shall be in full. However, partial reproduction can be made with the written consent of Deutsches Institut für Bautechnik. In this case partial reproduction has to be designated as such. Texts and drawings of advertising brochures shall not contradict or misuse the European technical approval.
- 6 The European technical approval is issued by the approval body in its official language. This version corresponds fully to the version circulated within EOTA. Translations into other languages shall be designated as such.

¹ Official Journal of the European Communities L 40, 11 February 1989, p. 12
² Official Journal of the European Communities L 220, 30 August 1993, p. 1
³ Official Journal of the European Union L 284, 31 October 2003, p. 25
⁴ *Bundesgesetzblatt Teil I 1998*, p. 812
⁵ *Bundesgesetzblatt Teil I 2011*, p. 2178
⁶ Official Journal of the European Communities L 17, 20 January 1994, p. 34

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1 Definition of the product and intended use

1.1 Definition of the construction product

The wax NONTRIBOS® VZ-Inject is a filling material for Post-Tensioning System in accordance with ETAG 013. It fulfils the requirements of ETAG 013 Annex C 4.2.

It is a ready to use product, based on a blend of mineral oils, wax and additives.

1.2 Intended use

The intended use of NONTRIBOS® VZ-Inject is to fill the prestressing ducts or sheaths in a Post-Tensioning System to ensure the permanent corrosion protection of the prestressing tendons.

The product can be used as a filling material according to ETAG 013 and is suitable for filling material for PT systems for prestressing of structures, for external tendons ducts.

The provisions made in this European technical approval are based on an assumed working life of the PT-System of 100 years.

The indications given on the working life cannot be interpreted as a guarantee given by the producer or the Approval Body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

2 Characteristics of the product and methods of verification

2.1 Characteristics of product

2.1.1 General

The assessment of the fitness of NONTRIBOS® VZ-Inject as filling material for Post-Tensioning System for the intended use in the relation to the requirements for mechanical resistance and stability in the sense of Essential Requirement 1 has been made in accordance with the "Guideline for European technical approval of Post-Tensioning kits for prestressing of structures, ETAG 013".

The release of dangerous substances (Essential Requirement 3) is determined according to ETAG 013, clause 5.3.1. A declaration was made by the kit manufacturer that the product does not contain any dangerous substances.

In addition to the specific clauses relating to dangerous substances contained in this European technical approval, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Directive, these requirements also need to be complied with, when and where they apply.

2.2.2 Wax

NONTRIBOS® VZ-Inject is a blend of mineral oils, wax and additives intended to be injected in ducts or sheaths of Post-Tensioning Systems.

It shall be heated for injection and is solid at room temperatures. When heated above its melting point it becomes liquid with low viscosity. After melting it hardens with falling temperatures.

NONTRIBOS® VZ-Inject ensures the permanent corrosion protection of the prestressing tendons.

The following table shows NONTRIBOS® VZ-Inject declared values for the tested characteristics and the requirements, verification methods and acceptance criteria. It complies with ETAG 013 Annex C 4.2.

Characteristics	Test method / Standard	Acceptance criteria
Congeealing point	NFT 60-128	≥ 65 °C
Penetration (1/10mm) at – 20°C	NFT 60-119	no cracking
Bleeding at 40 °C	BS 2000: PT121 (1982) modified	≤ 0.5 %
Resistance to oxidation 100 hours at 100 °C	ASTM D942.70	≤ 0.03 MPa
Copper-strip corrosion 100 hours at 100 °C	ISO 2160	Class: 1a
Corrosion protection 168 hours at 35 °C 168 hours at 35 °C	NFX 41-002 (Salt spray) NFX 41-002 (Distilled water spray) ^(c)	Pass No corrosion
Content of aggressive elements: Cl ⁻ , S ²⁻ , NO ₃ ⁻ SO ₄ ²⁻	NFM 07-023 NFM 07-023	≤ 50 ppm (0.005 %) ≤ 100 ppm (0.010 %)

3 Evaluation and attestation of conformity and CE marking

3.1 System of attestation of conformity

According to the Decision 98/456/EC of the European Commission⁷ system 1+ of the attestation of conformity applies.

This system of attestation of conformity is defined as follows:

System 1+: Certification of the conformity of the product by an approved certification body on the basis of:

- (a) Tasks for the manufacturer:
 - (1) factory production control;
 - (2) further testing of samples taken at the factory by the manufacturer in accordance with a prescribed test plan;
- (b) Tasks for the approved body:
 - (3) initial type-testing of the product;
 - (4) initial inspection of factory and of factory production control;
 - (5) continuous surveillance, assessment and approval of factory production control;
 - (6) audit-testing of samples taken at the factory.

Note: Approved bodies are also called "notified bodies".

⁷

Official Journal of the European Communities L 201/112 of 3 July 1998

3.2 Responsibilities

3.2.1 Tasks for the manufacturer

3.2.1.1 Factory production control

The manufacturer shall exercise permanent internal control of production.

All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall insure that the product is in conformity with this European technical approval.

The manufacturer may only use constituent materials stated in the technical documentation of this European technical approval.

The factory production control shall be in accordance with the control plan which is part of the technical documentation of this European technical approval. The control plan is laid down in the context of the factory production control system operated by the manufacturer and deposited with Deutsches Institut für Bautechnik.⁸

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the control plan.

3.2.1.2 Other tasks for the manufacturer

The manufacturer shall, on the basis of a contract, involve a body which is approved for the tasks referred to in section 3.1 in the field of filling materials for Post-Tensioning Kits for Prestressing of Structures in order to undertake the actions laid down in section 3.2.2. For this purpose, the control plan referred to in sections 3.2.1.1 and 3.2.2 shall be handed over by the manufacturer to the approved body involved.

3.2.2 Tasks for the approved bodies

The approved body shall perform the

- initial type-testing of the product,
- initial inspection of factory and of factory production control,
- continuous surveillance, assessment and approval of factory production control audit-testing of samples taken at the factory

in accordance with the provisions laid down in the control plan.

The approved body shall retain the essential points of its actions referred to above and state the results obtained and conclusions drawn in a written report.

The approved certification body involved by the manufacturer shall issue an EC certificate of conformity of the product stating the conformity with the provisions of this European technical approval.

In cases where the provisions of the European technical approval and its control plan are no longer fulfilled the certification body shall withdraw the certificate of conformity and inform Deutsches Institut für Bautechnik without delay.

⁸ The control plan is a confidential part of the European technical approval and only handed over to the approved body involved in the procedure of attestation of conformity. See section 3.2.2.

3.3 CE marking

The CE marking shall be affixed on the delivery note. The letters "CE" shall be followed by the identification number of the approved certification body, where relevant, and be accompanied by the following additional information:

- the name and address of the producer (legal entity responsible for the manufacture),
- the last two digits of the year in which the CE marking was affixed,
- the number of the EC certificate of conformity for the product,
- the number of the European technical approval,
- the number of the guideline for European technical approval,
- the identification of the product (trade name).

4 Assumptions under which the fitness of the product for the intended use was favourably assessed

4.1 Manufacturing

The European technical approval is issued for the product on the basis of agreed data/information, deposited with Deutsches Institut für Bautechnik, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to Deutsches Institut für Bautechnik before the changes are introduced. Deutsches Institut für Bautechnik will decide whether or not such changes affect the approval and consequently the validity of the CE marking on the basis of the approval and if so whether further assessment or alterations to the approval shall be necessary.

4.2 Installation

4.2.1 Using NONTRIBOS® VZ-Inject

The product shall be melted before injection. The wax shall be heated to a temperature of at least 20 °C above its congealing temperature (app. 70 °C). This temperature also depends on the environmental conditions at the time of injection and the used materials. Generally the target temperature is 100 °C

It is necessary for the preparation of the wax and the injection of cables to be made by qualified operators with specific equipment (i.e. heaters, pressure gauge, thermometer, etc.), in order to ensure the durability of the prestressing process for lifetime reference.

The minimum temperature for installation is 5 °C in order to prevent thermal shocks of the PT-components or early hardening of the wax.

The ducts shall withstand high temperature and pressure during injection.

The thermal contraction or the expansion of the ducts, which are a function of outdoor temperature differences, especially for polypropylene sheaths, shall be taken into account and thus all necessary steps will be taken.

European technical approval

ETA-13/0846

Page 7 of 7 | 19 June 2013

English translation prepared by DIBt

4.2.2 Personal safety equipment

The occupational health and safety regulations at the place of use shall be applied. Personal safety equipment shall be used by the operators.

- hand protection: use safety gloves of following materials: NBR (nitrile) / neopren / viton (permeation level 5 - 6), Cat. II according to norm EN 388, heat-resistant gloves
- eye protection: Safety goggles, in case of risk
- skin protection: heat-resistant protective clothing
- general protective measures: do not inhale vapours; avoid contact of molten material with skin.

4.2.3. Manufacturer responsibility

August Gähringer - Karl Gähringer e.K. agrees to provide, upon request, information on specific conditions of implementation, and on hygiene and safe handling of its product.

4.2.4. Execution

The installation and execution of the permanent protection system shall be done by a Post-Tensioning Specialist Company.

5 Indications to the manufacturer

5.1 Packaging, transport and storage

NONTRIBOS® VZ-Inject must be stored in metal drums in a cool, dry place. It must be handled with care. Measures against electrostatic charging and protection against it for exposure to heat and fire are necessary.

It must not be stored together with oxidizing agents.

Andreas Kummerow
p. p. Head of Department

beglaubigt:
Häusler