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European Technical Assessment ETA-10/0190 of 26.02.2015

English version prepared by ZAG

I GENERAL PART

Komercialno ime *Trade name*	**TSS-TPP-TBB (Tapco)**
Imetnik tehnične ocene *Holder of Technical Assessment*	**FRIULSIDER S.p.A.** **via Trieste, 1** **33048 San Giovanni al Natisone (UD)** **Italy**
Družina proizvoda *Product family*	**Zabito plastično sidro za pritrjevanje toplotno izolacijskih sistemov z ometi na podlagi iz betona** *Nailed-in plastic anchor for the fixing of external thermal insulation composite systems with rendering in concrete*
Proizvodni obrat *Manufacturing plant*	**FRIULSIDER S.p.A.** **via Trieste, 1** **33048 San Giovanni al Natisone (UD)** **Italy**
Ta Evropska tehnična ocena vsebuje *This European Technical Assessment contains*	9 strani vključno s 6 prilogami, ki so sestavni del te ocene *9 pages including 6 annexes, which form an integral part of the document*
Ta Evropska tehnična ocena je izdana na podlagi Uredbe (EU) št. 305/2001 na osnovi *This European Technical Assessment is issued in according to Regulation (EU) No 305/2011, on the basis of*	Smernice za evropska tehnična soglasja ETAG 014, izdaja 2011, ki se uporablja kot EAD *Guideline for European Technical Approval ETA 014, edition 2011, used as EAD*
Ta ocena zamenjuje *This Assessment replaces*	ETA-10/0190 izdano dne 26.01.2011 *ETA-10/0190 issued on 26.01.2011*

II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of the product

The plastic anchor TSS-TPP-TBB (Tapco) consists of a plastic expansion sleeve with a collar for fixing the profiles for thermal insulation systems and a metallic nail as an expansion element. The anchor sleeve is made of polyamide PA6. The nail is made of zinc plated steel or of stainless steel. The collar is made in three versions (countersunk, cylindrical head and large rim), whereas nail head is made in two versions (regular shape and nail screw with threaded part).

The anchor is installed in drilled hole by hammering in the expansion nail. The expansion of the anchor applies the anchorage.

The installed anchor is shown in Annex A1.

2 Specification of the intended use

The performances given in Chapter 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annex B.

The provisions made in this European Technical Assessment are based on an assumed working life of the anchor of 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the manufacturer, 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.

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

3.1 Mechanical resistance and stability (BWR 1)

Requirements with respect to the mechanical resistance and stability of non-load bearing parts of the works are not included in this basic work requirement but are under basic work requirement safety in use.

3.2 Safety in case of fire (BWR 2)

No performance determined.

3.3 Hygiene, health and environment (BWR 3)

Regarding dangerous substances contained in this European Technical Assessment, there may be requirements applicable to the products falling within its scope (e.g. transported European legislation and national laws, regulations and administrative provisions). In order to meet provisions of the regulation (EU) No 305/2011, these requirements need also to be complied with, when they apply.

3.4 Safety in use (BWR 4)

The basic work requirements for safety in use are listed in Annex C1.

3.5 Protection against noise (BWR 5)

Not relevant.

3.6 Energy economy and heat retention (BWR 6)

Not relevant.

3.7 Sustainable use of natural resources (BWR 7)

No performance determined.

3.8 General aspects relating to fitness for use

Durability and serviceability are only ensured if specifications of intended use according to Annexes B are kept.

4 Assessment and verification of constancy of performance (AVCP)

According to the decision 97/463/EC of the European Commission[1] the system of assessment and verification of constancy of performance (see Annex V to regulation (EU) No 305/2011) given in the following table apply.

Product	Intended use	Level of class	System
Plastic anchors for use in concrete and masonry	For use in systems, such as façade systems, for fixing or supporting elements which contribute to the stability of the systems	-	2+

5 Technical details necessary for the implementation of the AVCP system, as provided in the applicable European Assessment Document

Technical details necessary for the implementation of the AVCP system are laid down in the Control plan deposited at the Slovenian National Building and Civil Engineering Institute (ZAG).

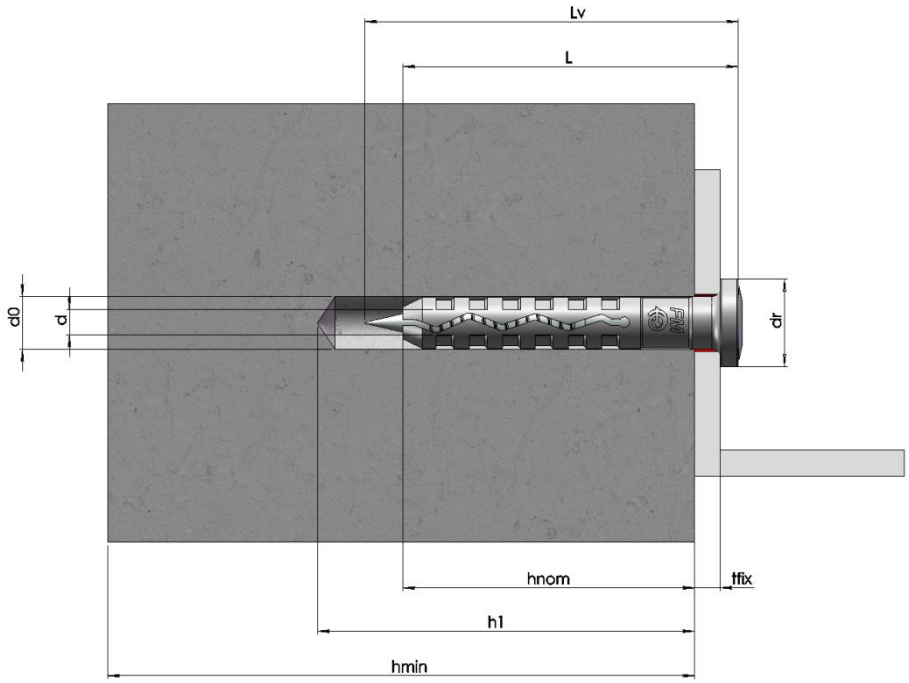
Issued in Ljubljana on 26.02.2015

Signed by:

Franc Capuder, M.Sc., Research Engineer

Head of Service of TAB

[1] Official Journal of the European Communities L 198 of 25.07.1997



L = total length of the plastic anchor sleeve
d_0 = nominal diameter of drill bit (= diameter of the plug)
h_1 = depth of drill hole
h_{nom} = minimum embedment depth (the same of the h_{ef} = effective anchorage depth)
d = nominal diameter of the nail screw
L_v = total length of the nail screw
d_r = diameter of the collar
h_{min} = minimum thickness of the concrete member
t_{fix} = thickness of fixture (the maximum thickness is inclusive of any non-structural layer of plaster)

TSS-TPP-TBB (Tapco)	**Annex A1**
Product description Installed condition	

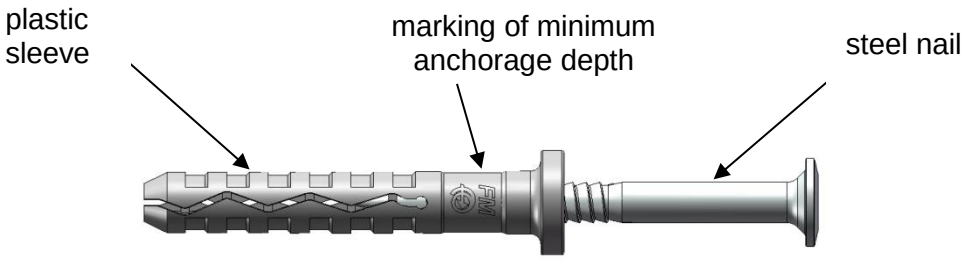


Table A1: Different sizes and combinations of plastic sleeves and steel nails

Type	Description	Schema
TSS	Countersunk head + nail screw	
	Countersunk head + nail screw with threaded part	
TPP	Cylindrical head + nail screw	
TBB	Large rim + nail screw	

TSS-TPP-TBB (Tapco)	
Product description Different components of the anchor: sleeves and nails	**Annex A2**

Table A2: Dimensions of components

Anchor type d_0 x L	Diameter of anchor sleeve d_0 [mm]	Diameter of the nail d [mm]	Length of an anchor L_v [mm]	Diameter oft he collar d_r [mm]	External thread
TSS Countersunk head + nail screw					
6x40	6	3,8	45	10	-
6x50			55		
6x60			65		
6x80			85		
8x60	8	4,8	65	12	-
8x80			85		
8x100			105		
8x120			125		
8x140			145		
TSS Countersunk head + nail screw with threaded part					
6x40	6	3,8	45	10	M6x6
6x50			55		M6x6
6x40			45		M7x6
6x50			55		M7x6
TPP Cylindrical head + nail screw					
6x40	6	3,8	45	10	-
6x50			55		
6x60			65		
8x60	8	4,8	65	11,5	
8x80			85		
8x100			105		
8x120			125		
8x140			145		
TBB Large rim + nail screw					
6x40	6	3,8	45	13	-
6x50			55		
6x60			65		
8x80	8	4,8	85	15	-
8x100			105		
8x120			125		
8x140			145		
8x160			165		

Table A3: Materials

	Materials
Anchor sleeve	Polyamide Pa6 acc. to ISO 1874
Nail	Steel grade.5.8 zinc plated A2K acc. to ISO 4042 or Stainless Steel A2-50 wr. 1.4567 or 1.4301 or 1.4306 acc. to EN 10088-3

TSS-TPP-TBB (Tapco)

Product description

Dimensions and materials

Annex A3

Specifications of intended use

Anchorages subject to:

- The anchor shall only be used for the transmission of wind suction loads and shall not be used for the transmission of dead loads of thermal insulation composite system. The dead loads have to be transmitted by the bonding of the thermal insulation composite system.

Base materials:

- Normal weight concrete C16/20 to C50/60 (use category A) according Annex C1;

Application temperature range:

- 5°C to +40°C (maximum short term temperature +40°C and maximum long term temperature +24°C).

Design:

- The design of anchorages is carried out in compliance with ETAG 014 “Guideline for European Technical Approval of Plastic Anchors for Fixing of External Thermal Insulation Composite System with Rendering” under the responsibility of the engineer experienced in anchorages.
- Verifiable calculation notes and drawings shall be prepared taking account of the loads to be anchored. The position of the anchor shall be indicated on the design drawings.
- Fasteners are only to be used for multiple non-structural application, according to ETAG 014, Edition February 2011.

Installation:

- Use of hammer drilling method.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters on the site.
- Ambient temperature during the installation of the anchor 5ºC to 40°C.
- Exposure to UV due to solar radiation of the anchor not protected by rendering ≤ 6 weeks.

TSS-TPP-TBB (Tapco)	**Annex B1**
Intended use Specification	

Table B1: Installation parameters

Anchor type d_0 x L	Nominal dril bit diameter d_0 [mm]	Thickness of the fixture t_{fix} [mm]	Depth of drilled hole to deepest point h_1 [mm]	Embedment depth h_{nom} [mm]
TSS Countersunk head + nail screw				
6x40	6	10	40	30
6x50		20		
6x60		30		
6x80		50		
8x60	8	20	50	40
8x80		40		
8x100		60		
8x120		80		
8x140		100		
TSS Countersunk head + nail screw with threaded part				
6x40	6	-	50	40
6x50		-	60	50
6x40		-	50	40
6x50		-	60	50
TPP Cylindrical head + nail screw				
6x40	6	10	40	30
6x50		20		
6x60		30		
8x60	8	20	50	40
8x80		40		
8x100		60		
8x120		80		
8x140		100		
TBB Large rim + nail screw				
6x40	6	10	40	30
6x50		20		
6x60		30		
8x80	8	40	50	40
8x100		60		
8x120		80		
8x140		100		
8x160		120		

Table B2: Minimum spacing and edge distances, dimension of members

Minimum spacing	s_{min} = [mm]	100
Minimum edge distance	c_{min} = [mm]	100
Minimum thickness of member	h_{min} = [mm]	100

TSS-TPP-TBB (Tapco)

Intended use

Installation parameters, minimum thickness, edge distance and spacing

Annex B2

Table C1: Characteristic resistance to tension loads $N_{Rk,p}$ in concrete for a single anchor in kN

Base material	**Characteristic resistance to tension loads $N_{Rk,p}$ [kN]**	
	M6	**M8**
Concrete C 16/20 to C 50/60 (EN 206-1)	**1,2**	
Partial safety factor γ_M [1)]	2,0	

[1)] in absence of other regulations, see ETAG 014 point 7.1

Table C2: Displacements under tension load N

Base material	Tension load N [kN]		Displacement δ_m (N) [mm]	
	M6	M8	M6	M8
Concrete C16/20 to C50/60 (EN 206-1)	**0,40**	**0,40**	0,20	0,22

TSS-TPP-TBB (Tapco)	**Annex C1**
Performance Characteristic resistance and displacements	