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le futur en construction

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European Technical Assessment

ETA-06/0032 of 06/12/2016

(English language translation, the original version is in French language)

General Part

Nom commercial *Trade name*	**SPIT HIT M**
Famille de produit *Product family*	**Cheville à clou pour fixation de système composite d'isolation thermique extérieure dans le béton et la maçonnerie** ***Nailed-in anchor for fixing of external insulation composite systems with rendering in concrete and masonry***
Titulaire *Manufacturer*	Société SPIT Route de Lyon F-26501 BOURG-LES-VALENCE France
Usine de fabrication *Manufacturing plants*	*Société SPIT* *Route de Lyon* *F-26501 BOURG-LES-VALENCE* France
Cette évaluation contient: *This assessment contains*	9 pages incluant 6 annexes qui font partie intégrante de cette évaluation 9 *pages including 6 annexes which form an integral part of this assessment*
Base de l'ETE *Basis of ETA*	EAD 330196-00-0604, edition June 2016
Cette évaluation remplace: *This assessment replaces*	ATE-06/0032 valide du 28/06/2013 au 05/12/2016 ETA-06/0032 with validity from 28/06/2013 to 05/12/2016

Specific Part

1 Technical description of the product

The SPIT HIT M anchor 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 6 (PA6) and the nail is made of bi-chromate steel or stainless steel. The collar exists in two different shapes as well as the nail head. The plastic sleeve is expanded by hammering in the expansion element (except for long size anchors with diameter 8 mm and broad pansunk head for which expansion is achieved by screwing) which presses the sleeve against the wall of the drilled hole.

The installed anchor is shown in Annex A.

2 Specification of the intended use

The anchor is to be used as multiple fixing for the anchorage of profiles for external thermal insulation composite system (ETICS) in concrete and masonry.
The performances given in Section C 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 producer, but are to be regarded only as a means for choosing the products in relation to the expected economically reasonable working life of the works.

3 Performance of the product

3.1 Mechanical resistance and stability (BWR 1)

For Basic Requirement Mechanical Resistance and Stability (BWR1) the same criteria are valid as for Basic Requirement Safety in use.

3.2 Sécurité en cas d'incendie (BWR 2)

EAD 040083-00-04 and ETAG 017 are relevant.

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)

Essential characteristic	Performance
Characteristic resistances in concrete and masonry	SeeAnnex C1
Displacements	See Annex C1
Installation distances and dimensions of members	See Annex B2

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)

For the sustainable use of natural resources no performance was determined for this product.

3.8 General aspects relating to fitness for use

Durability and Serviceability are only ensured if the specifications of intended use according to Annex B1 are kept.

4 Assessment and verification of constancy of performance (EVCP)

According to the Decision 97/463/EC of the European Commission , as amended, 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 or Class	Systeme
Nailed-in plastic anchor for fixing of external thermal insulation composite systems	Nailed-in plastic anchor for fixing of external thermal insulation composite systems with rendering on concrete and masonry	—	2+

5 Technical details necessary for the implementation of the AVCP system

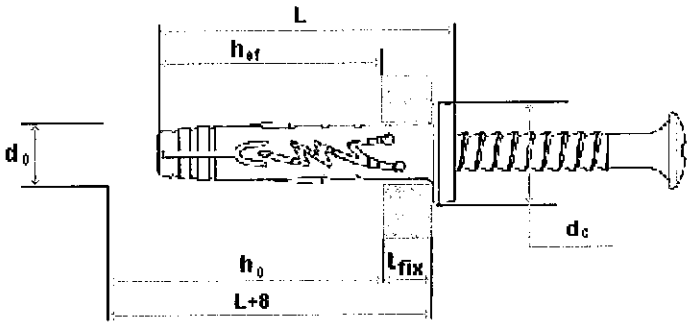
Technical details necessary for the implementation of the Assessment and verification of constancy of performance (AVCP) system are laid down in the control plan deposited at Centre Scientifique et Technique du Bâtiment.

The manufacturer shall, on the basis of a contract, involve a notified body approved in the field of anchors for issuing the certificate of conformity CE based on the control plan.

Issued in Marne La Vallée le 06-12-2016 by
Charles Baloche
Directeur technique

The original French version is signed

SPIT HIT M anchor, installed conditions :



L : overall length of the plastic sleeve
h_{ef} : effective anchorage depth
d_0 : drilled hole diameter
h_0 : depth of drilled hole
t_{fix} : thickness of fixture
d_c : diameter of the collar

t_{fix}, thickness of fixture corresponds to the thickness of the equalizing layer or non loadbearing coating in addition to the thickness of the profile itself.

SPIT HIT M	Annex A1
Description of the product Installed anchor	

SPIT HIT M : PLASTIC SLEEVE AND STEEL NAIL / MARKING ON PLASTIC SLEEVE

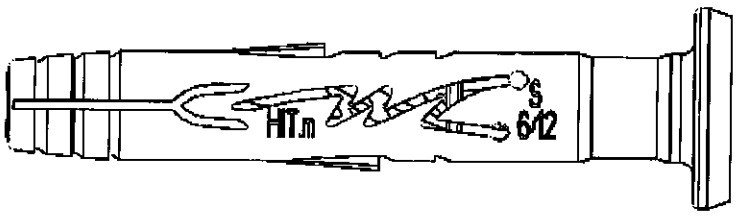
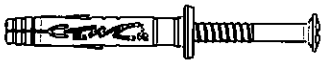
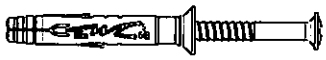
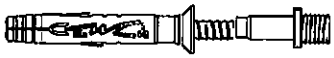
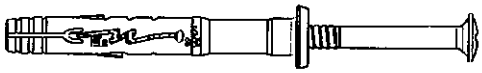
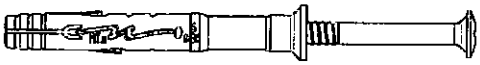
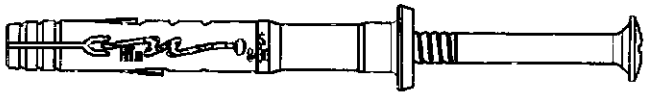


Table 1: Different sizes and combinations of plastic sleeves and steel nails

HIT M ϕ5 pansunk head	
HIT M ϕ6 pansunk head	
HIT M ϕ6 countersunk head	
HIT M ϕ6 countersunk with threaded part	
HIT M ϕ8 pansunk head	
HIT M ϕ8 countersunk head	
HIT M ϕ8 broad pansunk head (long. 158mm, 178 mm and 198 mm)	

SPIT HIT M	Annex A2
Description of the product Different components of the anchor : expansion sleeves and nails	

Table 2 : Materials

Designation	Materials	
	Nail	Plastic expansion sleeve
HIT M	Bi-chromated steel or stainless steel A2	Polyamide PA6

Table 3 : Dimensions of the components and installation data

SPIT HIT M	max. Fixture thickness	expansion sleeve diameter and drill hole diameter	Length of the expansion sleeve	Colar diameter	Nail type	nail diameter	Embed. depth	Depth of the drill hole in the support	Nail length
	t_{fix}	d_{nom} and d_0	L_d	d_c	-	d_s	h_{ef}	h_0	L
	[mm]	[mm]	[mm]	[mm]	[-]	[mm]	[mm]	[mm]	[mm]
5-5/27P	5	5	27	9	PZ2	3,5	20	35	32,0
5-15/37P	15		37						42,0
6-5/32P	5	6	32	11	PZ2	3,9	25	40	37,0
6-12/39P	12		39						44,0
6-25/52P	25		52						57,0
6-40/67P	40		67						72,0
6-12/39P	12		39	10					44,0
6/25/52V	25		52						57,0
6-40/67V	40		67						72,0
6/5-M6	-		32	11	Thread. M6		30	**	38,5
6/5-M7	-		32		Thread. M7			**	37,5
8-10/42P	10	8	42	13	PZ2	4.8	30	47	48,5
8-30/62P	30		62						68,5
8-60/92P	60		92						98,5
8-80/112P	80		112						118,5
8-100/132P	100		132						138,5
8-125/158P	125		158	15	PZ3				163
8-145/178P	145		178						183
8-165/198P	165		198						203
8-30/62V	30		62	11,5	PZ2				68,5
8-30/92V	60		92						98,5
8-60/112V	80		112						118,5
8-100/132V	100		132						138,5

* SPIT HIT M 5 with embedment depth 20 mm can be used only if it has been checked by appropriate job site tests that the effective characteristic resistance with the base material on site is consistent with the characteristic resistance to tension load indicated in Annex C1 table 6.

**Depth of the drilled hole = $L - t_{fix} + 8mm$.

SPIT HIT M	Annex A3
Description of the product Dimensions, Materials, Installation data	

Specifications of intended use

Anchorages subject to:

- Multiple fixing for the anchorage of bonded thermal insulation composite systems (ETICS).

Base materials:

- Use category « A » : Reinforced or unreinforced normal weight concrete, cracked or non-cracked, with strength class ≥ C12/15, according to EN 206: 2000-12 ;
- Use category « B » : solid masonry according to Annex B2 ;
- Use category « C »: hollow or perforated masonry according to Annex B2 .
- For other base materials of the use categories « A », « B » or « C », the characteristic resistance of the anchor may be determined by job site tests according to TR 51, Edition May 2016 (EOTA).

Design:

- The design of anchorages is carried out in compliance with EAD 330335-00-0604 (June 2016), "Plastic anchors for fixing of external thermal insulation composite systems with rendering" under the responsibility of an engineer experienced in anchorages.
- Verifiable calculation notes and drawings shall be prepared taking account of the loads to be anchored, the nature and strength of the base materials, the thickness of insulation and the dimensions of the anchorage as well as of the relevant tolerances.
- Proof of direct local application of load on the base material shall be delivered.
- The anchor shall only be used for the transmission of wind suction loads. All other loads such as dead load and restraints shall be transmitted by the adhesion of the relevant external thermal insulation composite system.
- The anchor with the bi-chromated steel nail shall be used with a thermal insulation cover of at least 50mm

Installation:

- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters on the site.
- Use of the anchor only as supplied by the manufacturer without exchanging the components of an anchor.
- Anchor installation in accordance with the manufacturer's specifications and drawings prepared for that purpose and using the appropriate tools.
- Checks before placing the anchor to ensure that the characteristic values of the base material in which the anchor is to be placed are identical to the values to which the characteristic loads apply.
- Observation of the drilling method : in the case of horizontally perforated clay bricks, the drilled hole is carried out using a rotary drill. In the case of other base materials covered in this Assessment, the drilled hole is carried out using hammer or impact drilling.
- Placing drill holes without damaging the reinforcement.
- Temperature during installation of the anchor ≥ 0°C.
- Exposure to UV due to solar radiation of the anchor not protected by rendering 6 weeks.

SPIT HIT M	
Intended Use Specifications	**Annex B1**

Table 4 : Base materials

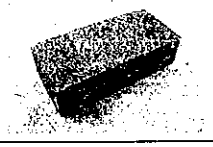
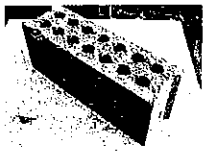
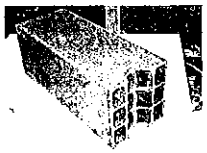
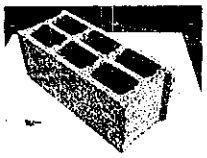
Base material	Dimensions L x l x H [mm]		References	Compressive strength [MPa]
Concrete C15/20	[EN 206-1]		EN 206-1	[EN 206-1]
Concrete C50/60	[EN 206-1]		EN 206-1	[EN 206-1]
Clay brick		220x110x 55	NF EN 771-1	4.7 (bending test)
Aggregates concrete solid masonry units		500x150x200	NF EN 771-3	12.5
Horizontally perforated clay bricks		500x200x200	NF EN 771-1	5.9
Aggregates concrete hollow masonry units		500x200x200	NF EN 771-3	8.2

Table 5 : Minimum spacing and edge distances, dimension of members

Minimum spacing	$S_{min} \geq 100$ mm
Minimum edge distance	$C_{min} \geq 100$ mm
Minimum thickness of member	$h \geq 100$ mm

Table 6 : Characteristic resistance to tension loads N_{Rk} in concrete and masonry for a single anchor (in kN)

SPIT HIT M	Concrete C15/20	Concrete C20/25 to C50/60	Clay brick	Aggregates concrete solid masonry units	Horizontally perforated clay bricks	Aggregates concrete hollow masonry units
5-5/27P	0.40	0.60	0.20	0.30	0.30	0.20
5-15/37P						
6-5/32P	0.70	0.90	0.80	0.40	0.40	0.30
6-12/39P						
6-25/52P						
6-40/67P						
6-12/39P						
6/25/52V						
6-40/67V						
6/5-M6						
6/5-M7						
8-10/42P	0.90	1.20	1.20	0.50	0.50	0.60
8-30/62P						
8-60/92P						
8-80/112P						
8-100/132P						
8-125/158P	0.60	0.90	0.90	0.50	0.50	0.60
8-145/178P						
8-165/198P						
8-30/62V	0.90	1.20	1.20	0.50	0.50	0.60
8-30/92V						
8-60/112V						
8-100/132V						

Displacements, when loaded to the design value of resistance:

- in normal weight concrete, a displacement of approximately 0,2 mm in the load direction is expected.
- in masonry made of clay bricks, aggregates concrete solid masonry units, aggregates concrete hollow masonry units and horizontally perforated clay bricks, a displacement from 0,1 mm to 0,3 mm in the load direction is expected.

SPIT HIT M	Annex C1
Characteristic Resistance in concrete and masonry	