Tecfi S.p.A. - Sistemi di Fissaggio
Sede operativa, stabilimento e corrispondenza:
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Declaration of Performance number 1109-CPD-0082.03

According to Regulation EU No 305/2011

Item code: **SWE01 Sinto ST-EE**

Manufacturer: **Tecfi S.p.A. - S.S. Appia, km 193 - 81050 Pastorano (CE), Italy**

1. Intended use	
Product-type:	Metal anchor for use in concrete
Anchor type:	Post-installed rebar connections of the sizes 8 to 32 mm with SWE01 Sinto ST-EE injection mortar
Technical description of the product:	The subject of this DoP are the post-installed connections, by anchoring or overlap connection joint consisting of steel reinforcing bars (rebars) in existing structures made of normal weight concrete, using injection mortar SWE01 Sinto ST-EE in accordance with the regulations for reinforced concrete construction. The design of the post-installed rebar connections shall be done in accordance with EN 1992-1-1 (Eurocode 2).
Specification of the intended use in accordance with the applicable EAD:	The assessment of fitness of the anchor for the intended use in relation to the requirements for mechanical resistance and stability and safety in use in the sense of the Basic Requirements 1 and 4 has been made in accordance with the « Guideline for European Technical Approval of Metal Anchors for use in Concrete », Part 1 « Anchors in general » and Part 5 « Bonded anchors », and EOTA Technical Report 023 “Assessment of post-installed rebar connections”.
Base material:	The post-installed rebar connections may be used in normal weight concrete of a minimum grade C12/15 and maximum grade C50/60 according to EN 206-1. They may be used in non-carbonated concrete with the allowable chloride content of 0,40 % (Cl 0,40) related to the cement content according to EN 206-1.
Installation:	- Dry or wet concrete (use category 1). - It must not be installed in flooded holes. - Overhead installation is permissible. - Hole drilling by hammer drill and diamond drilling machine (dry and wet cutting system). - Installation of the post-installed rebars shall be done only by suitable trained installer and under supervision on the site. - Check the position of the existing rebars (if the position of existing rebars in not known it shall be determined using a rebar detector suitable for this purpose as well as on the basis of the construction documentation and then marked on the building component for the overlap joint).
Loads:	- Static and quasi-static loads.

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According to Regulation EU No 305/2011

1. *Intended use*	
Durability:	- Structures subject to dry internal conditions. - Structures subject to external atmospheric exposure including industrial and marine environment). - Structures subject to permanently damp internal conditions if no particular aggressive conditions exist. Note: Particular aggressive conditions are e.g. permanent, alternating immersion in seawater or the splash zone of seawater, chloride atmosphere of indoor swimming pools or atmosphere with extreme chemical pollution (e.g. in desulphurization plants or road tunnels where de-icing materials are used).
Service temperature:	The anchors may be used in the following temperature range: ***-40°C to +80°C*** (max. short term temperature +80°C and max. long term temperature +50°C).
Resistance to fire:	No Performance Declared (NPD).
Reaction to fire:	Once the anchor is installed the thickness of the mortar layer is about 1 or 2 [mm] and most of the mortar is material classified A1 according to EC Decision 96/603/EC. Therefore it may be assumed that the bonding material (synthetic mortar or a mixture of synthetic mortar and cement) in connection with the metal anchor doesn't make any contribution to fire growth and to the smoke hazard.
Information referred to in article 31 of Regulation (EC) No 1907/2006 (REACH):	see MSDS
European Assessment Document:	ETAG001, part 1, part 5 and EOTA TR 023
European Technical Assessment:	ETA 12/0254
Technical Assessment Body:	ETA-Danmark A/S, Kollegievej 6, DK-2920 Charlottenlund (Danmark)
Design methods:	- Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete work. - Verifiable calculation notes and drawings are prepared taking into account of the forces to be transmitted. - Design according to EN 1992-1-1. - The actual position of the reinforcement in the existing structure shall be determined.
Assessment and Verification of Constancy of Performance:	EC Certificate No. 1109-CPD-0082.03
Notified Body:	*IFBT* GmbH, Hans-Weigel-Straße 2b, D - 04319 Leipzig, (Germany)
Under the system:	1

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1. *Intended use*

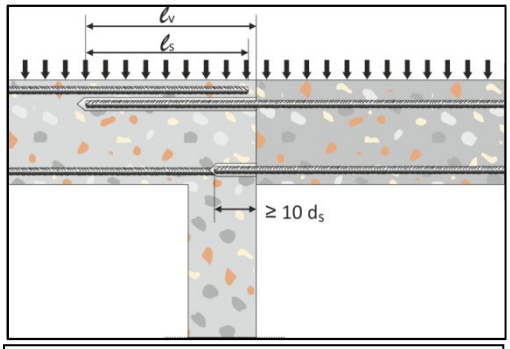

Figure 1 – Overlap joint for rebar connections of slabs and beams

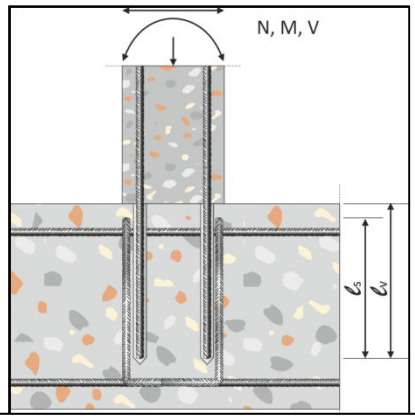

Figure 2 – Overlap joint at a foundation of a column or wall where the rebars are stressed in tension

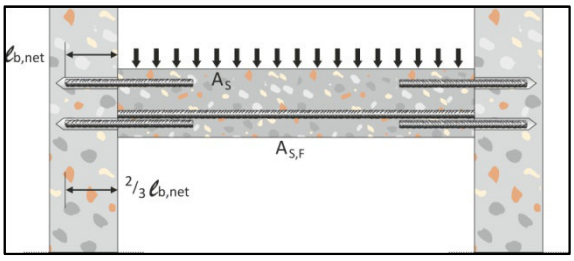

Figure 3 – End anchoring of slabs or beams, designed as simply supported.

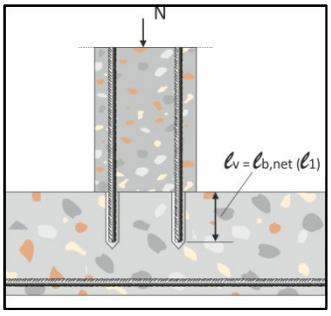

Figure 4 – Rebar connection for components stressed primarly in compression.

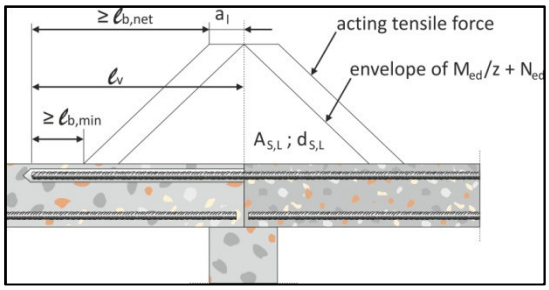

Figure 5 – Anchoring of reinforcement to cover the line of acting tensile force

Note: In the figures no transverse reinforcement is plotted, the transverse reinforcement as required by EC2 shall be present. The shear transfer between old and new concrete shall be designed according to EC2

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Declaration of Performance number 1109-CPD-0082.03

According to Regulation EU No 305/2011

2. *Anchor's components*

Table 2.a: Rebars material

Product form		**Bars and de-coiled rods**	
Class		**B**	**C**
Characteristic yield strength f_{yk} or $f_{0,2k}$ [N/mm^2]		400 to 600	
Minimum value of $k=(f_t/f_y)_k$		≥1,08	≥1,15 <1,35
Characteristic strain at minimum force, ε_{uk} %]		≥5,0	≥7,5
Bendability		bend / rebend test	
Maximum deviation from nominal mass (individual bar) [%]	**Nominal diameter [mm]** **≤Ø8** **>Ø8**	±6 ±4,5	
Bond: minimum relative rib area, $f_{R,min}$	**Nominal diameter [mm]** **Ø8 to Ø12** **>Ø12**	0,040 0,056	

Rib height h: The rib height h should be: 0,05·Ø ≤ h ≤ 0,07·Ø
Ø = nominal bar diameter

Table 2.b: Resin

Resin	**Composizione**
SWE01 Sinto ST-EE: two componets injection mortar	Additive: quartz Bonding agent: epoxy resin

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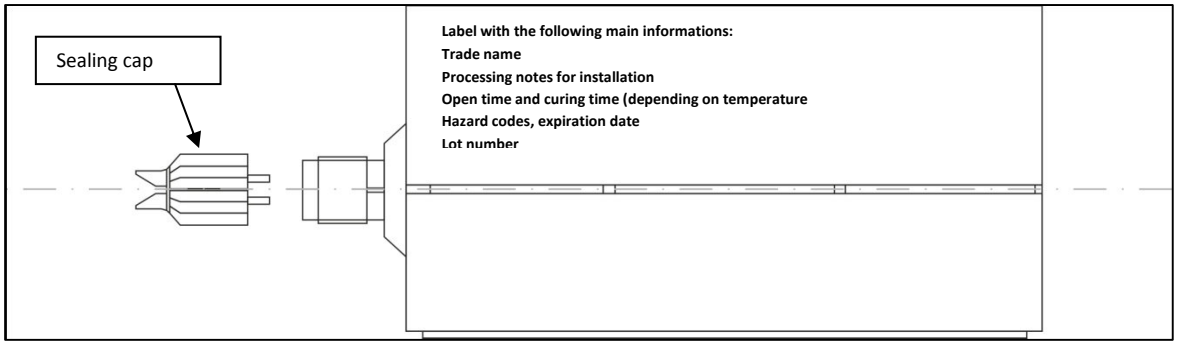
Declaration of Performance number 1109-CPD-0082.03

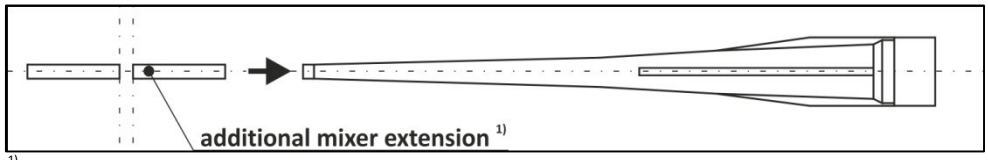
According to Regulation EU No 305/2011

2. *Anchor's components*

Cartridge from 400 to 900 ml – side by side

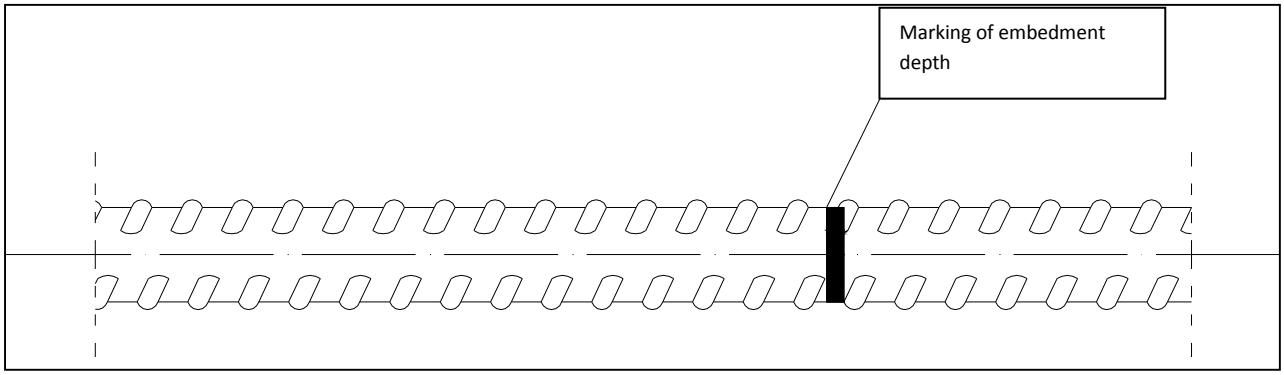


Mixer – the mixer is suitable for each type of cartridge



[1)] Variable length from 380 [mm] to 1000 [mm]

Rebar:



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Declaration of Performance number 1109-CPD-0082.03

According to Regulation EU No 305/2011

3. Installation

3.1 Installation information

Only tension forces in the axis of the rebar may be transmitted.

The transfer of shear forces between new concrete and existing structure shall be designed additionally according to EN 1992-1-1.

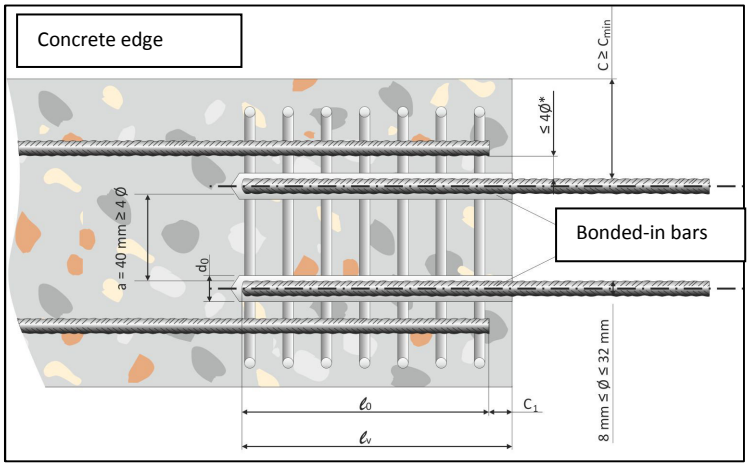

Table 3.a: Installation details

Symbol	Details
Ø	Rebar diameter
d_0	Drill hole diameter
l_0	Overlap length (EN 1992-1-1, clause 8.7.3)
l_v	Effective anchorage depth; $l_v \geq l_0 + c_1$
c	Concrete cover of post-installed rebar
c_{min}	Minimum concrete cover (EN 1992-1-1, clause 4.4.1.2)
c_1	Concrete cover of the existing rebar
a [1)]	Distance between overlapping rebars

[1)] If the clear distance between overlapping rebars is greater than 4·Ø the overlap length shall be enlarged by the difference between the clear distance and 4·Ø.

Table 3.b: Installation data [2),3)]

Diametro barra	d_0 [mm]	$l_{0,min}$ [mm]	$l_{b,,min}$ [mm]	$l_{v,max}$ [mm]	c_{min} [mm]	a [mm]
Ø8	12	200	115	700	30 + 0,06 $l_v \geq 2$ Ø	40 ≥ 4 Ø
Ø10	14	200	145	900	30 + 0,06 $l_v \geq 2$ Ø	40 ≥ 4 Ø
Ø12	16	200	170	1100	30 + 0,06 $l_v \geq 2$ Ø	40 ≥ 4 Ø
Ø14	18	210	200	1300	30 + 0,06 $l_v \geq 2$ Ø	40 ≥ 4 Ø
Ø16	20	240	230	1400	30 + 0,06 $l_v \geq 2$ Ø	40 ≥ 4 Ø
Ø20	25	300	285	100	30 + 0,06 $l_v \geq 2$ Ø	40 ≥ 4 Ø
Ø25	30	375	355	2200	40 + 0,06 $l_v \geq 2$ Ø	40 ≥ 4 Ø
Ø28	35	420	400	2500	40 + 0,06 $l_v \geq 2$ Ø	40 ≥ 4 Ø
Ø32	40	480	455	2500	40 + 0,06 $l_v \geq 2$ Ø	40 ≥ 4 Ø

[2)] Valid for hammer drilling and diamond drilling methods

[3)] According to EN 1992-1-1 modified with TR023: $l_{b,min}$ (8.6) and l0,min (8.11) with maximum yield stress for rebar BSt 500S, $\gamma_M = 1,15$, $\alpha_6 = 1,0$, concrete C20/25 with $f_{bd} = 2,30$ N/mm^2 and good bond condition.

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Declaration of Performance number 1109-CPD-0082.03

According to Regulation EU No 305/2011

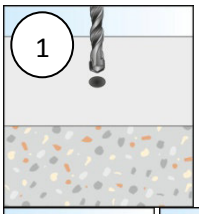
3. Installation

Table 3.c: Minimum curing time[1)]

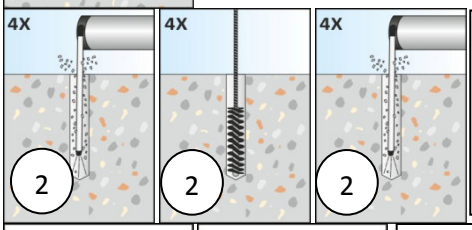
Concrete temperature [°C]	Processing time	Minimum curing time[3)]
0[2)]	3 h 20 min	54 h
5[2)]	2 h 30 min	41 h
10	1h 40 min	28 h
15	1 h 10 min	22 h
20	50 min	16 h
25	30 min	14 h
30	20 min	12 h

[1)]The minimum time from the end of the mixing to the time when the anchor may be torque or loaded
[2)]The minimum recommended resin temperature is 10[°C]
[3)]The minimum curing time for dry, wet and flooded hole conditions
[4)]Maximum resin temperature 24 °C.

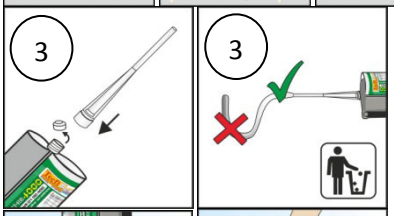
Table 3.d: Installation procedure up to 300 [mm] embedment depth



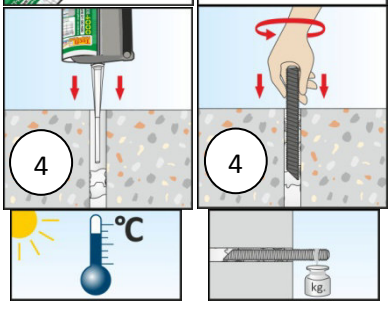
1 – Drill the hole with the correct diameter and depth using a rotary percussive machine.



2 – Clean the hole from drilling dust: the hole shall be cleaned by at least 4 blowing operations, by at least 4 brushing operations followed again by at least 4 blowing operations; before brushing, clean the brush and check if the brush diameter is sufficient.



3 – Unscrew the front cap of the cartridge, screw in the mixer and insert the cartridge in the extruder. Before starting to use the cartridge, eject a first part of the product, being sure that the two components are completely mixed. The complete mixing is reached only after that the product, obtained by the mixing of the two components, comes out from the mixer with an uniform color.



4 – Fill the drill hole uniformly starting from the bottom, in order to avoid entrapment of the air; remove the mixer slowly during the extrusion. Fill the drill hole with a quantity of injection mortar corresponding to 2/3 of the drill hole depth. Insert immediately the rod, marked according to the proper anchorage depth, slowly and with a slight twisting motion, removing excess of injection mortar around the rod. Observe the processing and the curing time before torque or load the anchor. (the rod must be free from oil or other contaminations)

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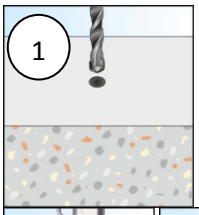
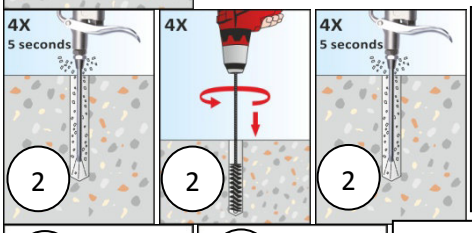
According to Regulation EU No 305/2011

3. Installation

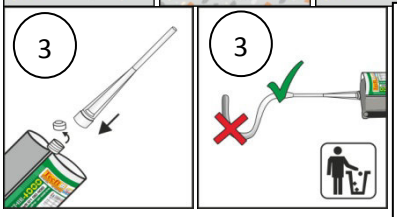
Table 3.e: Installation procedure up to 600 [mm] embedment depth



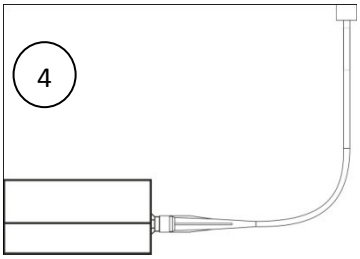
1 – Drill the hole with the correct diameter and depth using a rotary percussive machine.



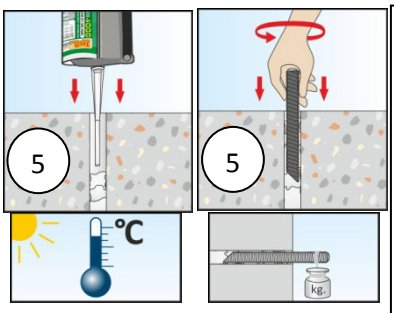
2 – Clean the hole from drilling dust: the hole shall be cleaned by at least 4 blowing operations, by at least 4 brushing operations followed again by at least 4 brushing operations; before brushing, clean the brush and check if the brush diameter is sufficient.



3 – Unscrew the front cap of the cartridge, screw in the mixer and insert the cartridge in the proper pneumatic-pump. Before starting to use the cartridge, eject a first part of the product, being sure that the two components are completely mixed. The complete mixing is reached only after that the product, obtained by the mixing of the two components, comes out from the mixer with an uniform color.



4 – Before starting the injection insert the mixer extension and the injection plug (see paragraph 3.3.2.2).



5 – Fill the drill hole uniformly starting from the bottom, in order to avoid entrapment of the air; remove the mixer slowly during the extrusion. Fill the drill hole with a quantity of injection mortar corresponding to 2/3 of the drill hole depth. Insert immediately the rod, marked according to the proper anchorage depth, slowly and with a slight twisting motion, removing excess of injection mortar around the rod. Observe the processing and the curing time before torque or load the anchor (the rod must be free from oil or other contaminations)

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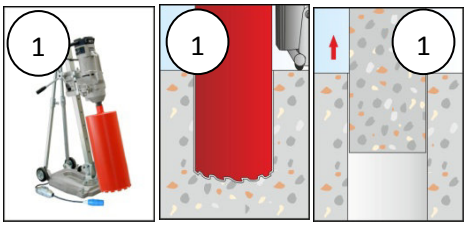
According to Regulation EU No 305/2011

3. Installation

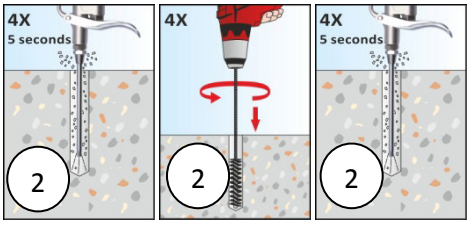
Tabella 3.f: Installation procedure for diamond drilling method



1 - Drill the hole with the correct diameter and depth using a core drill machine. Check the perpendicularity of the hole during the drilling operation. Remove completely the core from the hole.

After operation 1, if the diamond drilling machine used has a dry cutting system to proceed with the installation procedure according to point 2. Instead if it is used a wet cutting system before of the point 2 the following operations must be done:

- Flush the hole 2 times by inserting a water hose to the back of the hole until water runs clear
- Brush 2 times with the proper special brush. Before brushing clean the brush and check if the brush diameter is sufficient.
- Flush again 2 times until water runs clear
- Remove all standing water completely (using for example vacuum system or compressed air free oil)



2 – Clean the hole from drilling dust: the hole shall be cleaned by at least 4 blowing operations (5 seconds for single operation) with compressed air, by at least 4 brushing operations with special brush followed again by at least 4 blowing operations (5 seconds for single operation) with compressed air. Before brushing clean the brush and check if the brush diameter is sufficient.

After the operation above, to follow the operations from 3 to 6 on the previous Annex B9 and B10 in function of the depth of the hole.

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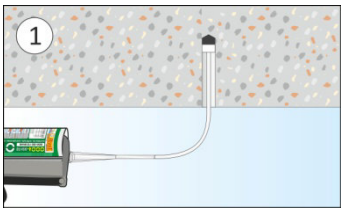
Declaration of Performance number 1109-CPD-0082.03

According to Regulation EU No 305/2011

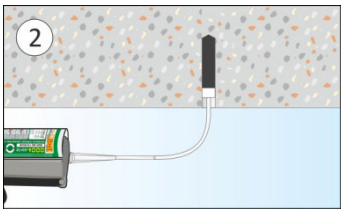
3. Installation

Table 3.g: Overhead application

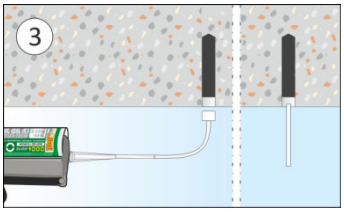
In addition to standard procedure, for overhead installation, follow the instructions below



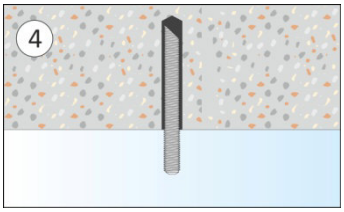
1 – Start injection: Inject from the bottom of the hole using the proper pneumatic-pump. Hold this position during the injection phase.



2 – Injection phase: inject the product about 2/3 of the hole depth. During the injection hold this position to assure the correct installation.



3 – End injection: remove the injection plug. Insert immediately the rod (turn the rod during the insertion).



4 – End installation: to avoid the slipping of the rod during the open time of the product (due to the rod own weight) use a temporary interlocking element (e.g. wedge of wood).

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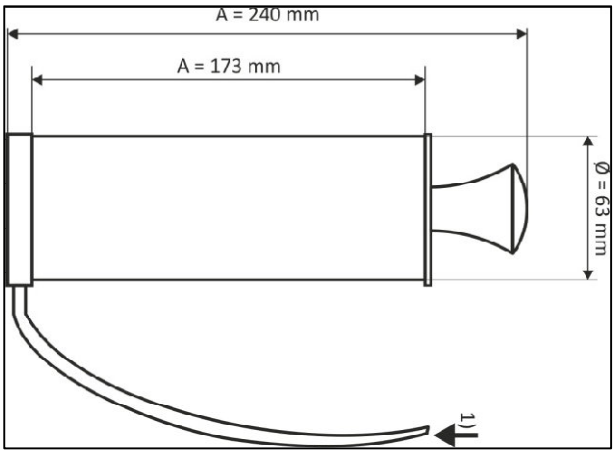
According to Regulation EU No 305/2011

3. Installation

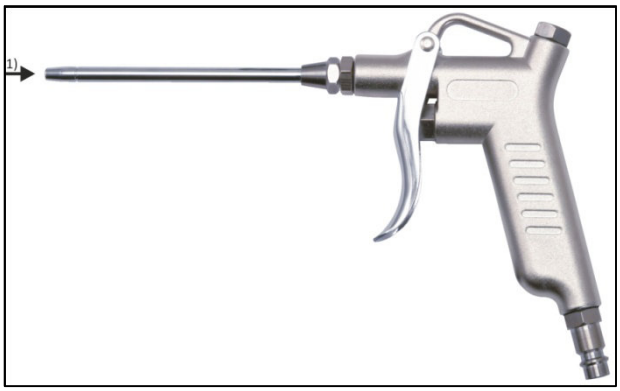
3.2: Cleaning tools

- Manual blower pump



It's possible to use the mixer extension with the manual blower pump

- Mechanical air system (compressed air)



The use of the mixer extension is also allowed if using the compressor (compressed air)

- ***Minimum suitable pressure 6 [bar] at 6 [m3/h].***
- ***Oil free compressed air.***
- ***Recommended air gun with an orifice opening minimum 3,5 [mm] in diameter.***

[1)]Position to insert the mixer extension[2)]
[2)]Mixer extension (from 380 [mm] to 1000 [mm]) with nominal diameter equal to 8 [mm]

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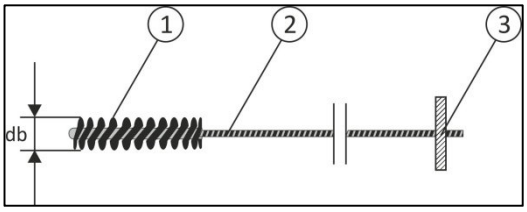
According to Regulation EU No 305/2011

3. Installation

- Standard brush

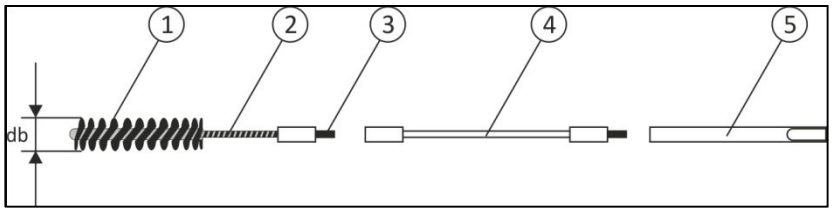


1 – Steel bristles
2 – Steel stem
3 – Wood handle

Table 3.h: Standard brush diameter

Rebar diameter Ø			Ø8	Ø10	Ø12	Ø14	Ø16
d_0	Drill hole diameter	[mm]	12	14	18	18	20
d_b	Brush diameter	[mm]	14	16	20	20	22

- Special brush



1 – Steel bristles
2 – Steel stem
3 – Threaded connection for drilling tool extension
4 – Special brush extension
5 – Drilling tool connection (SDS connection)

Table 3.i: Special brush diameter (mechanical brush)

Rebar diameter Ø			Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø28	Ø32
d_0	Drill hole diameter	[mm]	12	14	16	18	20	25	30	35	40
d_b	Brush diameter	[mm]	14	16	18	20	22	27	32	37	42

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3. Installation

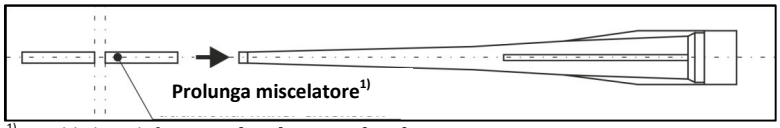
3.3: Tools for injection:

3.3.1 Standard installation conditions:

Installation procedure up to 300 [mm] embedment depth (no overhead installation)

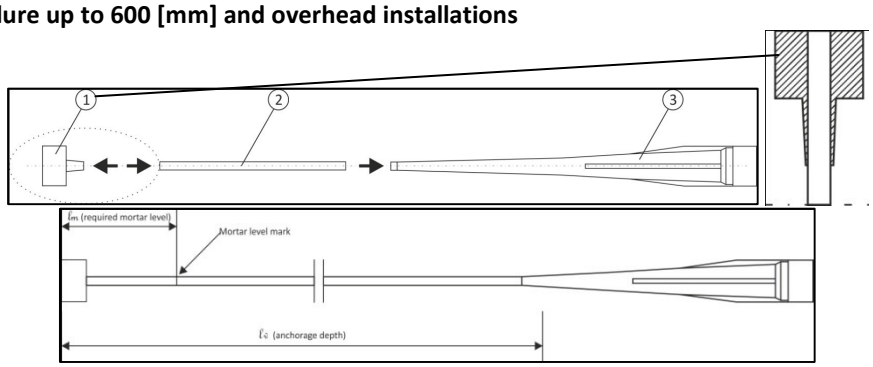
3.3.2 Special installation conditions:

Use the mixer extension (assembled on the standard mixer) in the installation procedure up to 300 [mm] embedment depth if needed



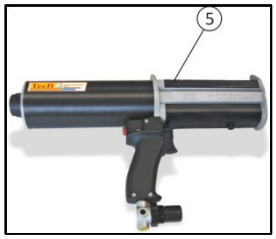
[1)]Variable length from 380 [mm] to 1000 [mm]

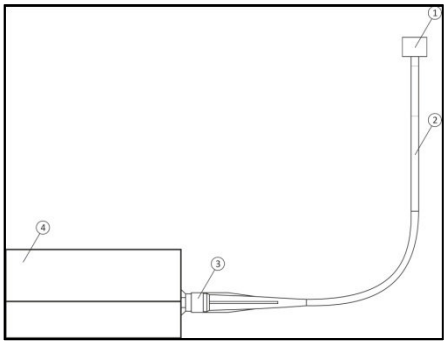
3.3.2.1 Use the mixer extension (assembled on the standard mixer) with the injection plug for installation procedure up to 600 [mm] and overhead installations



1 – Injection plug (nominal diameter according to the nominal diameter of the drill hole)
2 – Special mixer extension (variable length, with nominal diameter 10 [mm])
Mark the required mortar level l_m and embedment depth l_v with tape or marker on the injection extension.
Quick estimation l_m = 1/3 l_v. Continue the injection until the mortar level mark l_m become visible.
3 – Standard mixer (suitable for all cartridges size)

- System assembled





1 – Injection plug
2 – Special mixer extension
3 – Standard mixer
4 – Cartridge
5 – Injection pneumatic pump

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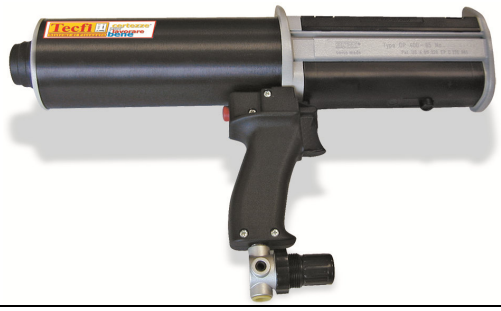
3. Installation

Table 3.I: Resin injection pump details

Pump example	Cartridge size	Type
DHP 01 00 900 	**900 ml**	**Pneumatic[1)]**
DHP 01 00 400 	**400 ml**	**Pneumatic[1)]**
DH 03 00 400 	**400 ml**	**Pneumatic[1)]**
DH 04 00 400 	**400 ml**	**Manual (up to 300 [mm] embedment depth)**

[1)] *The pneumatic injection pump is recommended for all special applications*

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4. Declared performance according to ETAG 001 part 1, part 5 and EOTA TR023

4.a Design values of the ultimate bond resistance f_{bd} [N/mm^2]according to EN 1992-1-1, Hammer drilling method

Concrete strength class	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
rebar from Ø8 to Ø28	1,60	2,00	2,30	2,70	3,00	3,40	3,70	4,00	4,30
rebar Ø32	1,60	2,00	2,30	2,70	3,00	3,40	3,70	4,00	4,00

4.b Design values of the ultimate bond resistance f_{bd} [N/mm^2]according to EN 1992-1-1, Diamond drilling method

Concrete strength class	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
rebar from Ø8 to Ø28	1,60	2,00	2,30	2,70	3,00	3,40	3,70	4,00	4,30
rebar Ø28	1,60	2,00	2,30	2,70	3,00	3,40	3,70	3,70	3,70
rebar Ø32	1,60	2,00	2,30	2,70	3,00	3,00	3,00	3,00	3,00

The above values are valid only for good bond conditions according to EN 1992-1-1. For other bond conditions multiply the values by 0,7.

5. Values for pre-calculation of anchoring

Examples for anchorage length for rebars ($f_{y,k}$ = 500 N/mm^2) on concrete C20/25 (f_{bd} = 2,3 N/mm^2) – Values for hammer drilling and diamond drilling

Rebar Ø	Tensile strength Bst 500	$\alpha_1=\alpha_2=\alpha_3=\alpha_4=\alpha_1=1,0$			$\alpha_1=\alpha_2=\alpha_3=\alpha_4=\alpha_1=1,1$		
		l_{bd}	Tension load	Mortar volume	l_{bd}	Tension load	Mortar volume
[mm]	[kN]	[mm]	[kN]	[ml]	[mm]	[kN]	[ml]
8	21,85	115,00	6,65	8,50	115,00	9,50	8,50
		180,00	10,40	13,31	180,00	14,86	13,31
		250,00	14,45	18,48	200,00	16,52	14,78
		320,00	18,50	23,65	220,00	18,17	16,26
		378,00	21,85	27,95	265,00	21,85	19,56
10	34,15	145,00	10,48	12,86	145,00	14,97	12,86
		230,00	16,62	20,40	230,00	23,74	20,40
		310,00	22,40	27,50	260,00	26,84	23,06
		390,00	28,18	34,59	290,00	29,93	25,72
		473,00	34,15	41,92	331,00	34,15	29,34
12	49,17	170,00	14,74	17,59	170,00	21,06	17,59
		270,00	23,41	27,94	270,00	33,44	27,94
		370,00	32,08	38,29	300,00	37,16	31,05
		470,00	40,75	48,64	330,00	40,88	34,15
		567,00	49,17	58,69	397,00	49,17	41,08
14	66,93	200,00	20,23	23,65	200,00	28,90	23,65
		320,00	32,37	37,85	320,00	46,24	37,85
		440,00	44,51	52,04	360,00	52,02	42,58
		560,00	56,65	66,23	400,00	57,81	47,31
		662,00	66,93	78,25	463,00	66,93	54,78

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5. Values for pre-calculation of anchoring

Examples for anchorage length for rebars ($f_{y,k}$ = 500 N/mm^2) on concrete C20/25 (f_{bd} = 2,3 N/mm^2) – Values for hammer drilling and diamond drilling

Rebar Ø	Tensile strength Bst 500	$\alpha_1=\alpha_2=\alpha_3=\alpha_4=\alpha_1=1,0$			$\alpha_1=\alpha_2=\alpha_3=\alpha_4=\alpha_1=1,1$		
		l_{bd}	Tension load	Mortar volume	l_{bd}	Tension load	Mortar volume
[mm]	[kN]	[mm]	[kN]	[ml]	[mm]	[kN]	[ml]
16	87,42	230,00	26,59	30,60	230,00	37,99	30,60
		360,00	41,62	47,90	360,00	59,46	47,90
		490,00	56,65	65,20	400,00	66,06	53,22
		620,00	71,68	82,49	440,00	72,67	58,54
		756,00	87,42	100,61	529,00	87,42	70,43
20	136,59	285,00	41,19	59,25	285,00	58,84	59,25
		450,00	65,03	93,55	450,00	92,90	93,55
		620,00	89,60	128,90	500,00	103,22	103,95
		790,00	114,17	164,24	550,00	113,55	114,34
		945,00	136,59	196,50	662,00	136,59	137,55
25	213,42	355,00	64,13	90,21	355,00	91,61	90,21
		560,00	101,16	142,30	560,00	144,51	142,30
		770,00	139,09	195,66	750,00	193,54	190,57
		980,00	177,03	249,02	800,00	206,45	203,28
		1181,00	213,42	300,21	827,00	213,42	210,15
28	267,72	400,00	80,93	162,99	400,00	115,61	162,99
		630,00	127,46	256,71	700,00	202,32	285,24
		860,00	173,99	350,44	800,00	231,22	325,99
		1090,00	220,53	444,16	900,00	260,12	366,73
		1323,00	267,72	539,20	926,00	267,72	377,44
32	349,67	455,00	105,21	242,16	455,00	150,29	242,16
		720,00	166,48	383,20	760,00	251,04	404,49
		980,00	226,60	521,58	840,00	277,47	447,07
		1240,00	286,71	659,96	920,00	303,89	489,64
		1512,00	349,67	804,87	1059,00	349,67	563,41

6. Values for pre-calculation of flap splice lengths

Examples for anchorage length for rebars ($f_{y,k}$ = 500 N/mm^2) on concrete C20/25 (f_{bd} = 2,3 N/mm^2) – Values for hammer drilling and diamond drilling

Rebar Ø	Tensile strength Bst 500	$\alpha_1=\alpha_2=\alpha_3=\alpha_4=\alpha_1=1,0$			$\alpha_1=\alpha_2=\alpha_3=\alpha_4=\alpha_1=1,1$		
		l_{bd}	Tension load	Mortar volume	l_{bd}	Tension load	Mortar volume
[mm]	[kN]	[mm]	[kN]	[ml]	[mm]	[kN]	[ml]
8	21,85	200,00	11,56	14,78	200,00	16,52	14,78
		240,00	13,87	17,74	240,00	19,82	17,74
		280,00	16,19	20,70	265,00	21,85	19,56
		320,00	18,50	23,65	-	-	-
		378,00	21,85	27,95	-	-	-

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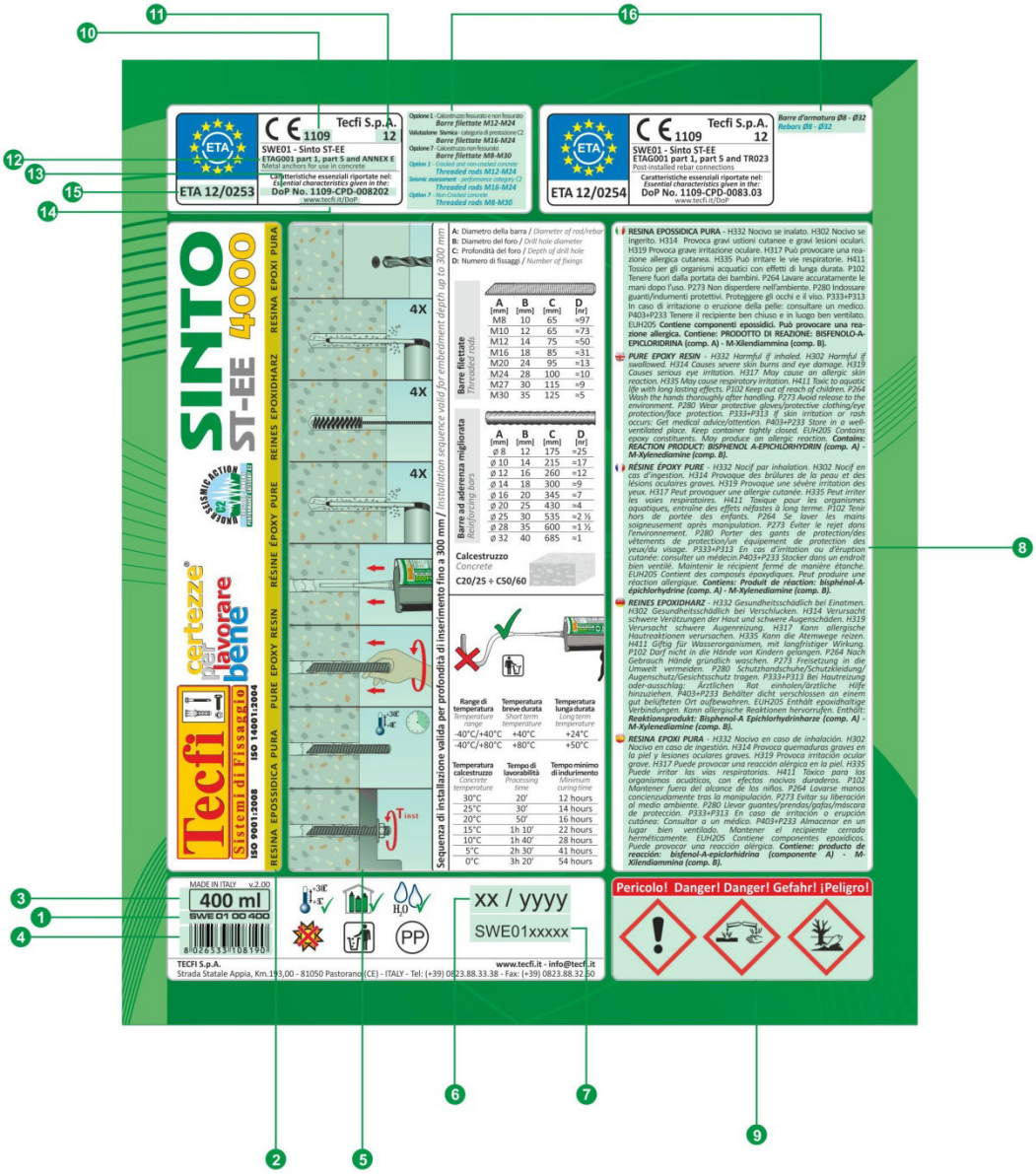
6. Values for pre-calculation of flap splice lengths

Rebar Ø	Tensile strength Bst 500	$\alpha_1=\alpha_2=\alpha_3=\alpha_4=\alpha_1=1,0$			$\alpha_1=\alpha_2=\alpha_3=\alpha_4=\alpha_1=1,1$		
		l_{bd}	Tension load	Mortar volume	l_{bd}	Tension load	Mortar volume
[mm]	[kN]	[mm]	[kN]	[ml]	[mm]	[kN]	[ml]
10	34,15	200,00	14,45	17,74	200,00	20,64	17,74
		270,00	19,51	23,95	235,00	24,26	20,85
		340,00	24,57	30,16	270,00	27,87	23,95
		410,00	29,63	36,37	305,00	31,48	27,05
		473,00	34,15	41,92	331,00	34,15	29,34
12	49,17	200,00	17,34	20,70	200,00	24,77	20,70
		290,00	25,15	30,01	250,00	30,97	25,87
		380,00	32,95	39,33	300,00	37,16	31,05
		470,00	40,75	48,64	350,00	43,35	36,22
		567,00	49,17	58,69	397,00	49,17	41,08
14	66,93	210,00	21,24	24,84	210,00	30,35	24,84
		320,00	32,37	37,85	270,00	39,02	31,93
		430,00	43,50	50,86	330,00	47,69	39,03
		540,00	54,63	63,87	390,00	56,36	46,13
		662,00	66,93	78,25	463,00	66,93	54,78
16	87,42	240,00	27,75	31,93	240,00	39,64	31,93
		370,00	42,78	49,23	310,00	51,20	41,25
		500,00	57,81	66,53	380,00	62,76	50,56
		630,00	72,83	83,83	450,00	74,32	59,88
		756,00	87,42	100,61	529,00	87,42	70,43
20	136,59	300,00	43,35	62,37	300,00	61,93	62,37
		460,00	66,48	95,63	390,00	80,51	81,08
		620,00	89,60	128,90	480,00	99,09	99,79
		780,00	112,72	162,16	570,00	117,68	118,50
		945,00	136,59	196,50	662,00	136,59	137,55
25	213,42	375,00	67,74	95,29	375,00	96,77	95,29
		580,00	104,77	147,38	470,00	172,90	170,25
		780,00	140,90	198,20	780,00	201,29	198,20
		980,00	177,03	249,02	800,00	206,45	203,28
		1181,00	213,42	300,21	827,00	213,42	210,14
28	267,72	420,00	84,97	171,14	420,00	121,39	171,14
		650,00	131,51	264,86	720,00	208,10	293,39
		880,00	178,04	358,59	810,00	234,11	330,06
		1110,00	224,57	452,31	900,00	260,12	366,73
		1323,00	267,62	539,20	926,00	267,72	377,44
32	349,67	480,00	110,99	255,47	480,00	158,55	255,47
		740,00	171,10	393,84	740,00	244,43	393,84
		1000,00	231,22	532,22	1000,00	330,32	532,22
		1260,00	291,34	670,60	1260,00	349,67	670,60
		1512,00	349,67	804,87	1059,00	349,67	563,41

Declaration of Performance number 1109-CPD-0082.03

According to Regulation EU No 305/2011

7. Label



1 Item Code	9 Danger symbols
2 Descriptions	10 Identification number of the Notified Body
3 Cartridge capacity (ml)	11 Last two digits of the year in wich the marking was first affixed
4 EAN 13 code	12 European standard applied and intended use
5 Installation sequence	13 DoP number
6 Expiring date	14 Link to DoP
7 Lot Number	15 European Assessment Document's number
8 Warnings	16 Declared level of performance

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8. Item codes

Table 8.a: Item codes

Cartridge capacity	*Cartridge type*	*Item codes*
400 ml	Side by side (shuttle)	SWE 01 00 400
900 ml	Side by side (shuttle)	SWE 01 00 900

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Name and function	*Place and date of issue*	*Signature*
President Antonio Guarino	Pastorano, *April 30th 2014*