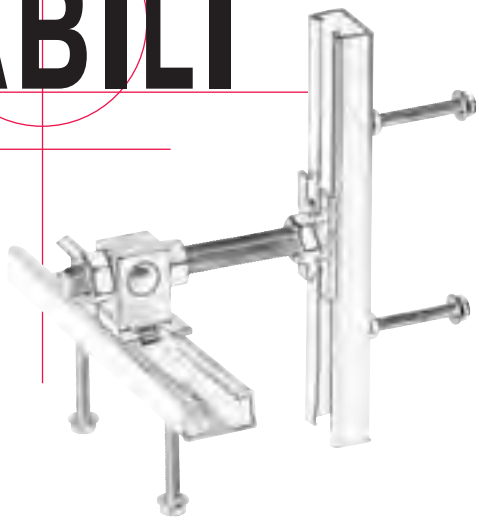
REGOLABILI



User manual

2018

B.S.Italia®

Gruppo Styl-Comp

innovazione basata sull'esperienza

innovation based on experience

PLEASE READ CAREFULLY ALL THE INFORMATIONS AND INSTRUCTIONSIN THIS USER MANUAL BEFORE THE USE OF ANY COMPONENT OF THE "ADJUSTABLE" SYSTEM, COVERED BY INTERNATIONAL PATENT.

For any doubt about the corrrect use of the components described in this manual please contact:

B.S.Italia S.p.A. •24050 Zanica(BG) • Via Stezzano, 16 •tel +39 035 671746 •fax +39 035 672265 www.bs-italia.it • infobsitalia@styl-comp.it

B.S. Italia S.p.A. is a ISO 9001 certified company and adjustable stystem is designed and constructed according to

B.S.Italia Certifications

• For the Quality system:
Company with Quality system certified by IGQ
According to UNI EN ISO 9001

• For the general parts:
Static calculations, Eurocodes and state-of-art

• For the materials:
UNI-EN 10025-1 Hot-rolled-non-alloyed steel products for structural use. Supply technical conditions .

UNI 10139 Finished cold-rolled-non-alloyed steel products.
Band iron and straps for cold-forming quality. Quality, specifications and tests.

UNI EN 10083 Temper steel. Supply technical conditions.

UNI EN 10346 Steel plains products with low level of carbon continued-hot-dip galvanization, for cold shapening. Supply technical conditions.

• For surface treatements:
UNI EN ISO 2081 Metallic claddings. Electrolytic zinc cladding on iron or steel.

UNI 4042 Steel bolt. Technical prescription for electrolytic claddings.

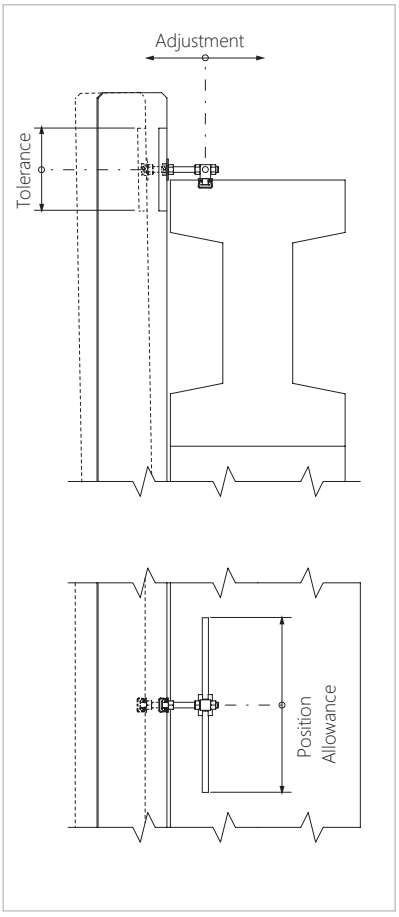
• For materials control:
Accredia certified laboratiories

• UNI EN 1090-2 Execution of steel structures.

CONTENT

Drawings reported in this user manual are provided purely for information

B.S.Italia® Gruppo Styl-Comp



Easy, fast and Safe

B.S. Italia windbracing nodes are an innovative solution for an easy, fast and safe assembly.

Millimetre adjustment

REGOLABILI anchorage system let you adjust the vertical position of concrete elements to the millimetre. They are based on the concept of a fixed point in the structure withe the panel being moved away from or closer to this by the millimetre. (Vertical adjustment, plumbing).

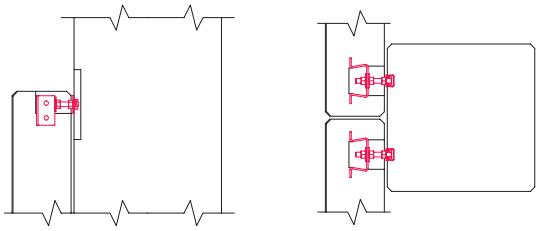
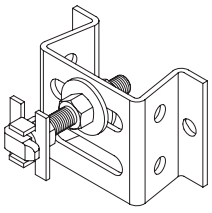
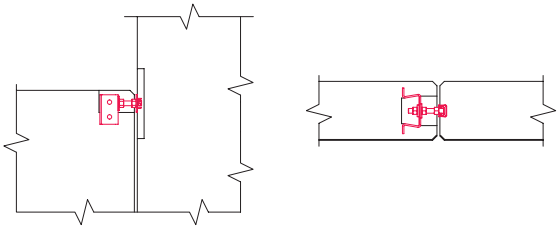
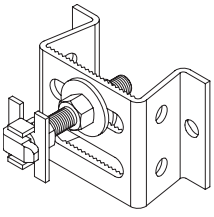
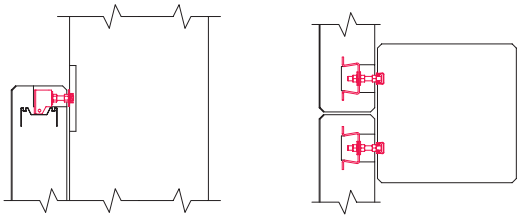
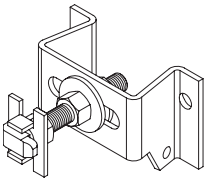
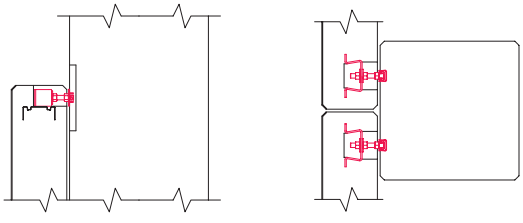
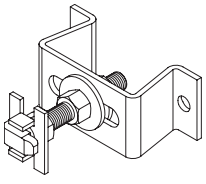
Versatility

REGOLABILY systems are extremely versatile: B.S. Italia has designed a wide range of systems and accessories for connections between artifacts of different type.

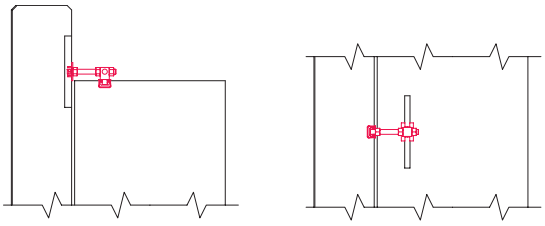
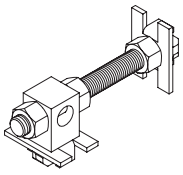
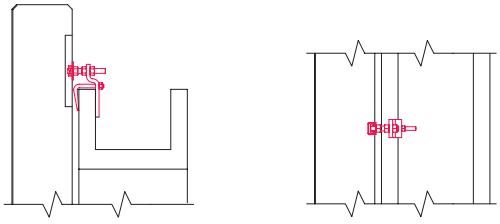
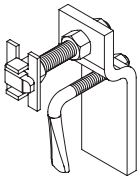
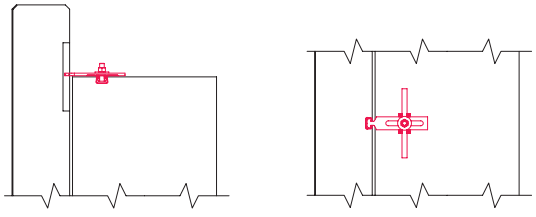
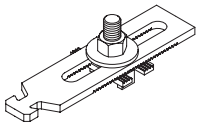
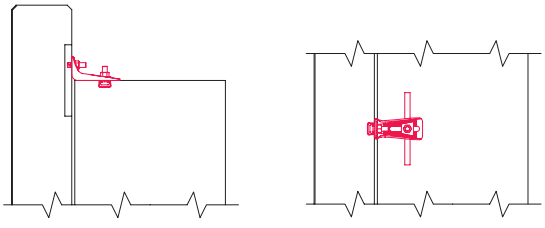
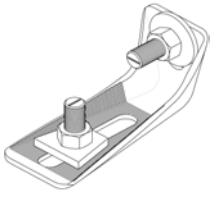
In fact, special anchor profiles are used to allow for the tolerances coupling the panels and the structure. Screws and extensions of various lenghts are used to get the required distances between panel and the fixed point.

CHOICE OF THE WINDBRACING SYSTEM

The connection type must be chosen to suit the type of the artifacts to be connected and the type of restraint required, as well as the adjustment wanted.

Type of connection	Type	Pag
Panel - Column 	**T.S.z. Hidden Pipe System** 	8
Horizontal Panel - Vertical panel 	**T.S.z.(O) Hidden Tube system** 	11
Panel - Column (with ECO Profile 130) 	**T.S.e. Hidden tube system** 	14
Panel - Column (with ECO Profile 50-95-115-180) 	**T.S.u. Hidden tube system** 	17

CHOICE OF THE WINDBRACING SYSTEM

Type of connection	Type	Pag
Panel - Beam 	Vise System 	20
Panel - Gutter 	Clamp System 	23
Profile running along panel and structure (ex: sails and vertical panels) 	Anti-slipping System 	25
Panel - Structure 	Double-ribbed Bracket 	29

Payloads of all system in this manual are to be considered as nominals in exercise (S.L.E.).

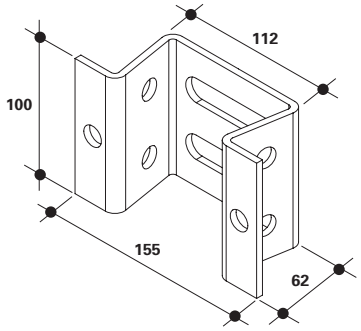
ULTIMATE LIMIT STATE payloads (U.L.S.) are indicated in the table reported below:

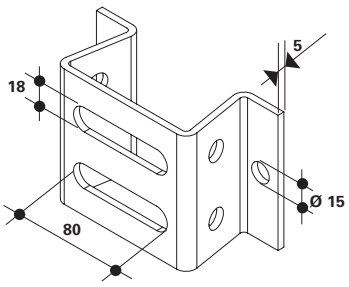
SYSTEM			NOMINAL PAYLOAD IN EXERCISE (kN)	ULTIMATE LIMIT STATE PAYLOAD U.L.S. (kN)
T.S.z. / T.S.e.		without bracketing	10	15
		with bracketing	12	18
T.S.z.O. / T.S.u.		without bracketing	8	12
		with bracketing	10	15
Vise			10	15
Corrector			6	9
Clamp			10	15
Anti slipping (knured plain plates as started in page 25-26)			12	18
Anti slipping (knured plates with special head as started in page 27-28)			20	30
Double-riddeb bracket			22	33
B.S.s. with straps / B.S.s. "Diy" short screws / B.S.s. "Root"	concentrate payload (every 24 cm)	traction	10	15
		shear	10	15
		slipping	2	3
B.S.s. with spirals / with backeting rebars / B.S.c. "Root" / B.S.c. "Diy" short screws	concentrate payload (every 24 cm)	traction	8	12
		shear	8	12
		slipping	2	3
B.S.s. "Diy" with long screws	concentrate payload (every 24 cm)	traction	12	18
		shear	12	18
		slipping	2	3
B.S.s. with swan-necked stirrups	concentrate payload (every 24 cm)	traction	10	15
		shear	8	12
		slipping	2	3

N.B.: The values of the reaches are to be considered valid only in the presence of reinforced conrete with Rck≥35 N/mm².

in mm

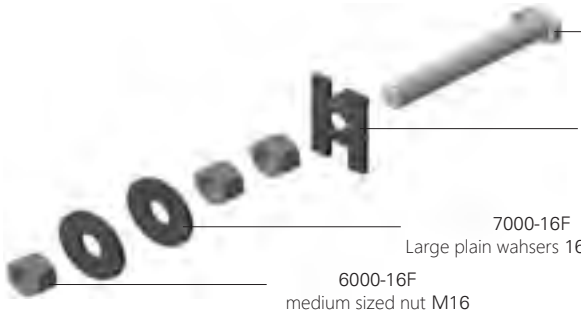
Code 2300-1.5F





EXAMPLE OF ASSEMBLY

Bolt tightening torque = 110Nm



8015-16F
Anchor Head Screw M16 L=110

7007-16F
smooth double-tabbed washer

7000-16F
Large plain wahsers 16 x 48

6000-16F
medium sized nut M16

The anchor head screw choice depends on the distance of the panel from the anchorage profile in the structure (see page 52 for various lenghts available)

B.S.Italia® Gruppo Styl-Comp

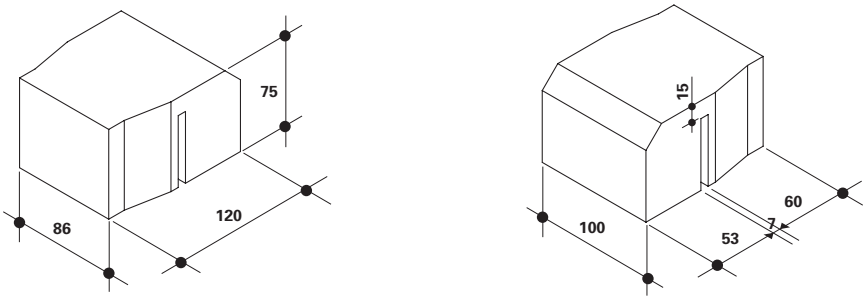
Positioning of the T.S.z. hidden pipe in the polystyrene or metallic form

PLACEMENT IN THE FORM

A disposable polystyrene or reusable metallic form is used to position the T.S.z. hidden pipe; the form must be oiled to allow for removal of the concrete element after stripping. The form creates the cavities needed to insert and position the screws that fix the T.S.z.

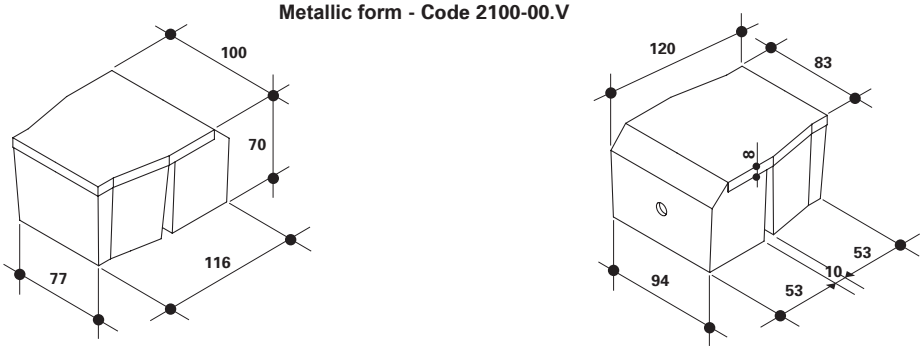
in mm

Polystyrene form - Code 2100-02.P



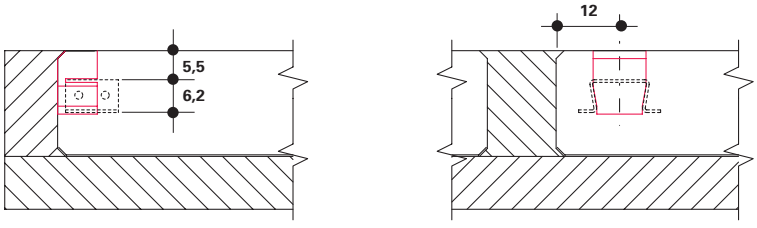
in mm

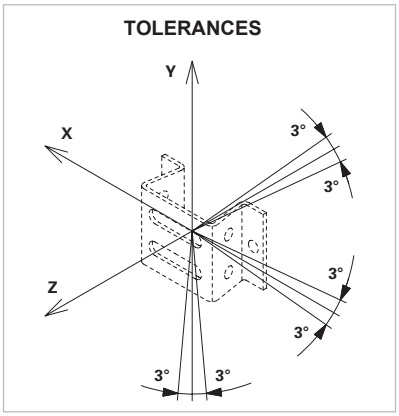
Metallic form - Code 2100-00.V



T.S.z FORM PLACEMENT

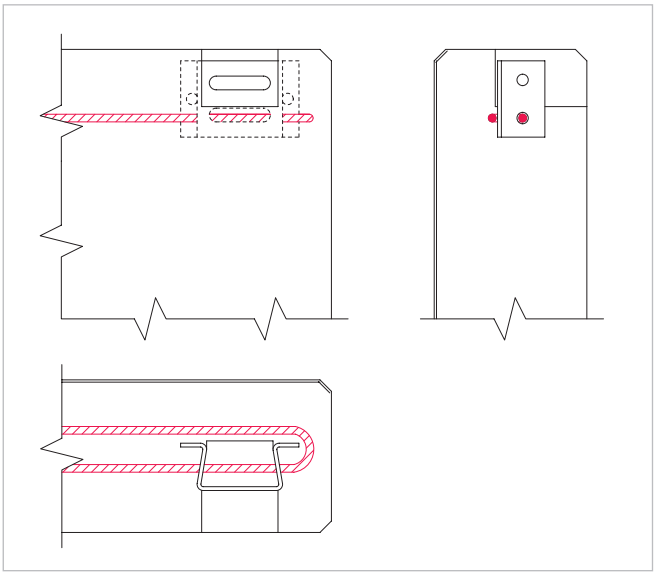
in cm





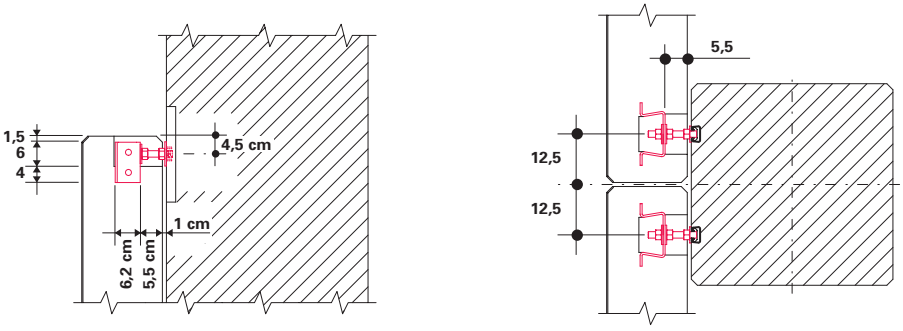
BRACKETING

The bracketing of the T.S.z. hidden pipe consist of a Ø10 (B450) Sv=80cm cocncrete strip with Rck ≥ 35 N/mm² as shown in the figure.
This bracketing is not mandatory, but allow to increase T.S.z. payloadas as shown in the table on page 7.



SYSTEM PLACEMENT

in cm

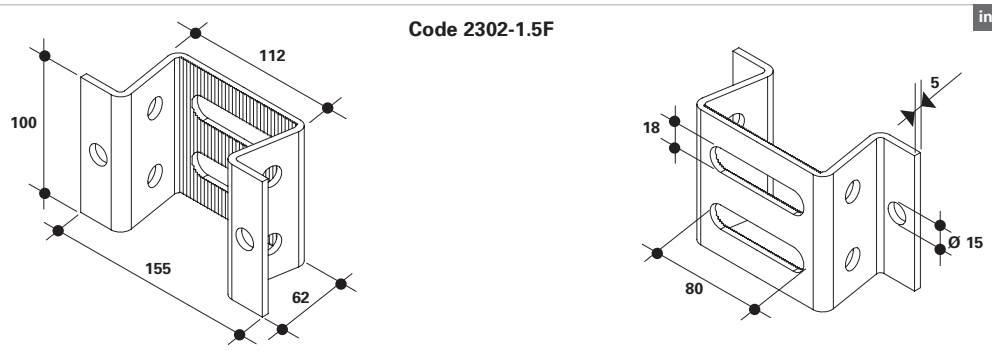


Rck ≥ 35 N/mm²

B.S.Italia® Gruppo Styl-Comp

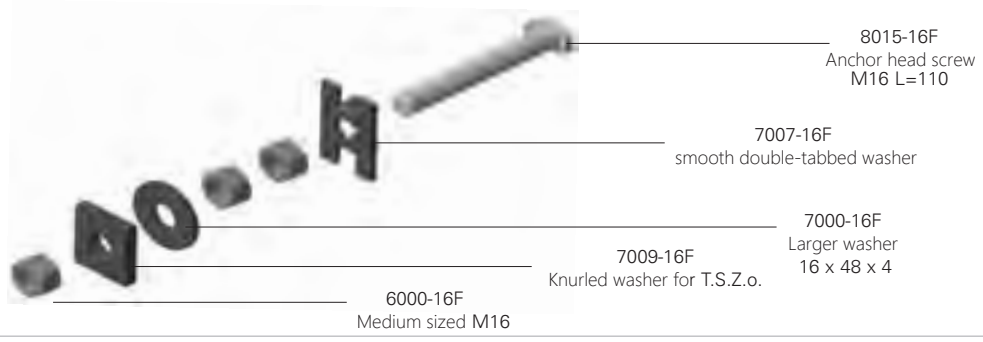
in mm

Code 2302-1.5F



EXAMPLE OF ASSEMBLY

Bolt tightening Torque = 110Nm



The choice of Anchor head screw depends on the distance of the panel from the anchorage profile in the structure (see page 52 for various lenghts available)

T.S.z.(O) HIDDEN TUBE SYSTEM

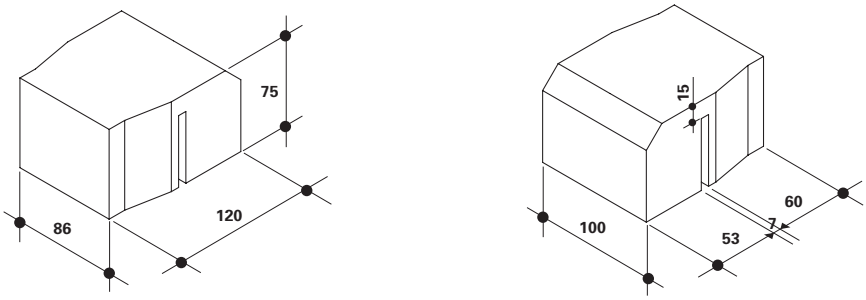
Placement of the T.S.z. (O) hidden pipe in the polystyrene or metallic form

PLACEMENT IN THE FORM

A disposable polystyrene or reusable metal form is used to position the T.S.z. (O) hidden pipe; the form must be oiled to allow for removal of the concrete element after stripping.
The form creates the cavities needed to insert and position the screws that fix the T.S.z. (O).

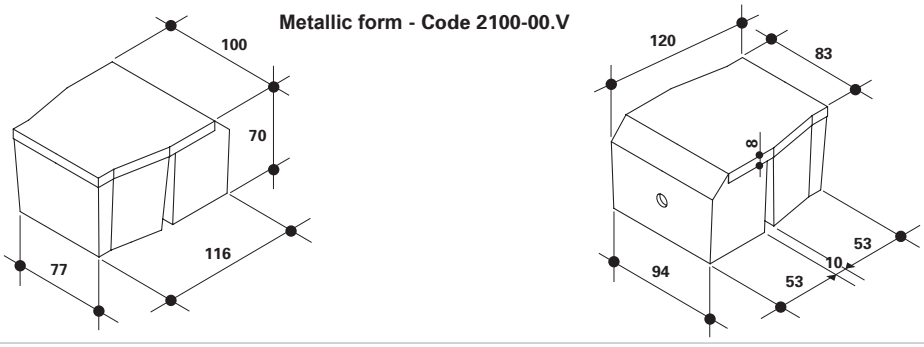
in mm

Polystyrene form - Code 2100-02.P



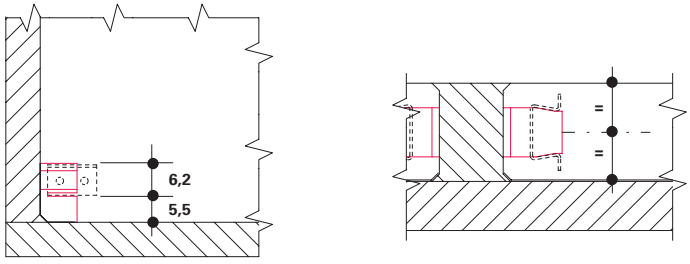
in mm

Metallic form - Code 2100-00.V

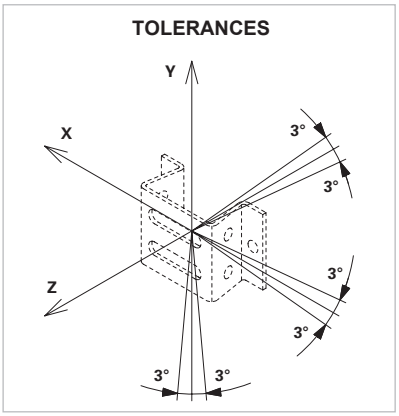


T.S.z.(O) FORM PLACEMENT

in cm

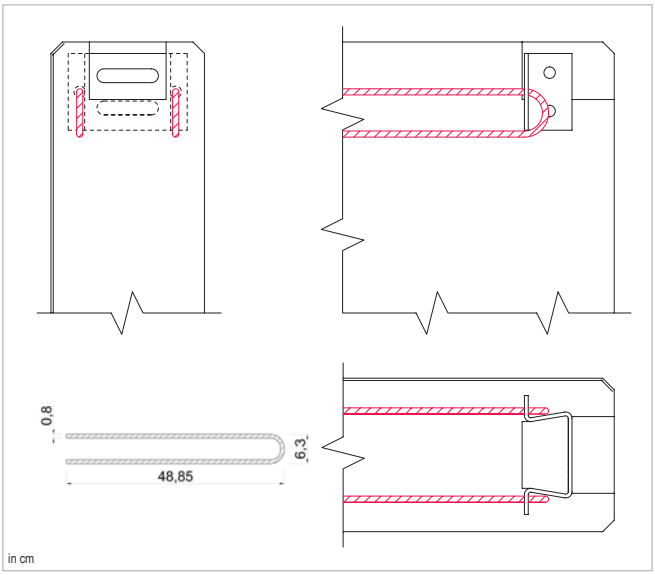


B.S.Italia® Gruppo Styl-Comp



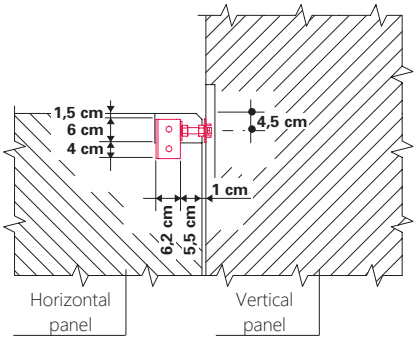
BRACKETING

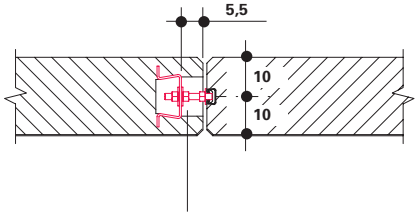
The bracketing of the T.S.z.(O) hidden pipe consist of two Ø 8 (B450) Sv=100cm cocncrete strip with Rck ≥ 35 N/mm^2 as shown in the figure. This bracketing is not mandatory, but helps to increase T.S.z.(O) payload as shown in the table on page 7.



SYSTEM PLACEMENT

in cm





To guarantee the payload is necessary to fill in with the expansive shrinkage-compensated cement mortar (with this operation payload is valid also with shear).

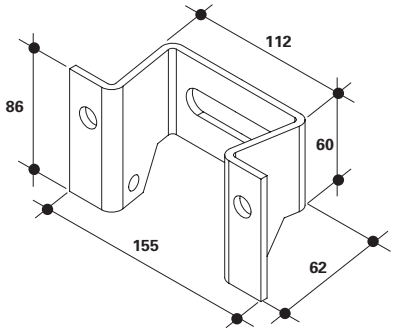
Otherwise the payload should be halved.

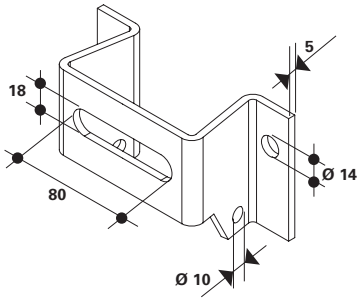
Rck ≥ 35 N/mm^2

To be used in panels realized with ECO 130-180 B.S. Italia Reinforcement

in mm

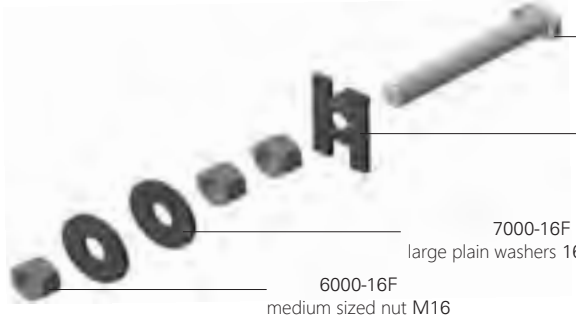
Code 2301-1.5F





EXAMPLE OF ASSEMBLY

Bolt tightening Torque = 110Nm



8015-16F
anchor head screw M16 L=110

7007-16F
smooth double-tabbed washer

7000-16F
large plain washers 16 x 48

6000-16F
medium sized nut M16

The choice of the anchor head screw varies depending on the distance of the panel from the anchorage profile in the structure (for lenghts available see page 52)

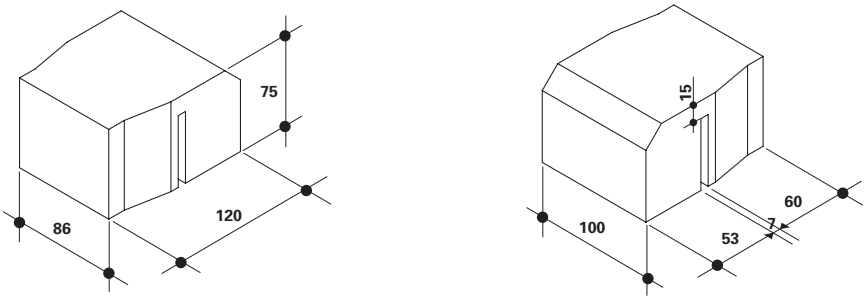
T.S.e. hidden pipe placement in the polystyrene or metallic form

FORM PLACEMENT

A disposable polystyrene or reusable metallic form is used to position the T.S.e hidden pipe; the form must be oiled to allow for removal of the concrete element after stripping. The form creates the cavities needed to insert and position the screws that fix the T.S.e.

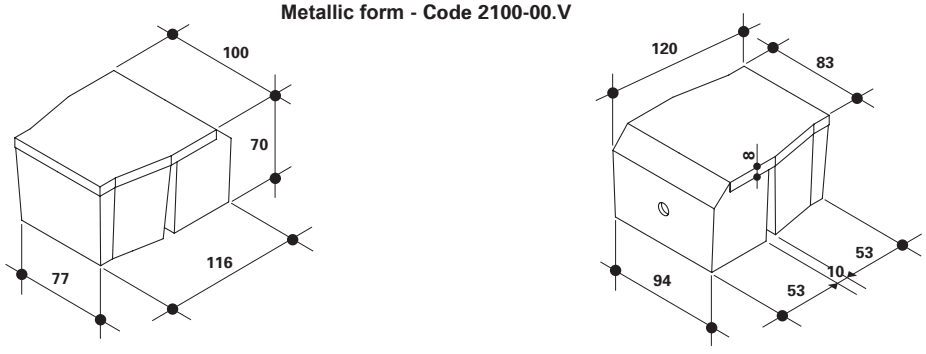
in mm

Polystyrene form - Code 2100-02.P



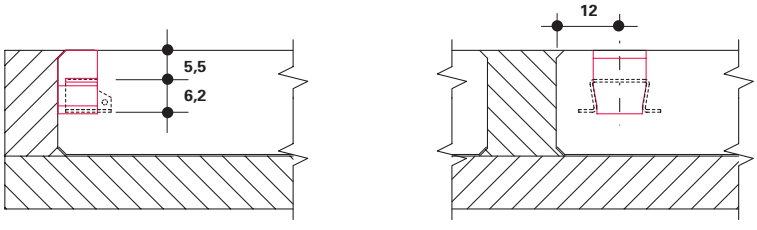
in mm

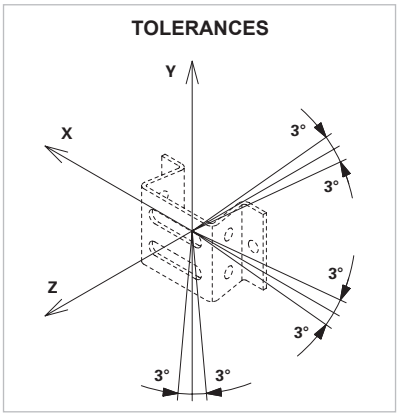
Metallic form - Code 2100-00.V



T.S. FORM PLACEMENT

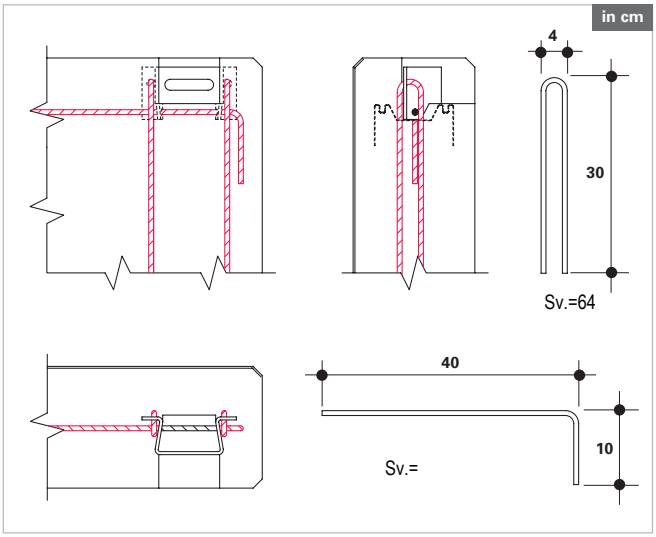
in cm



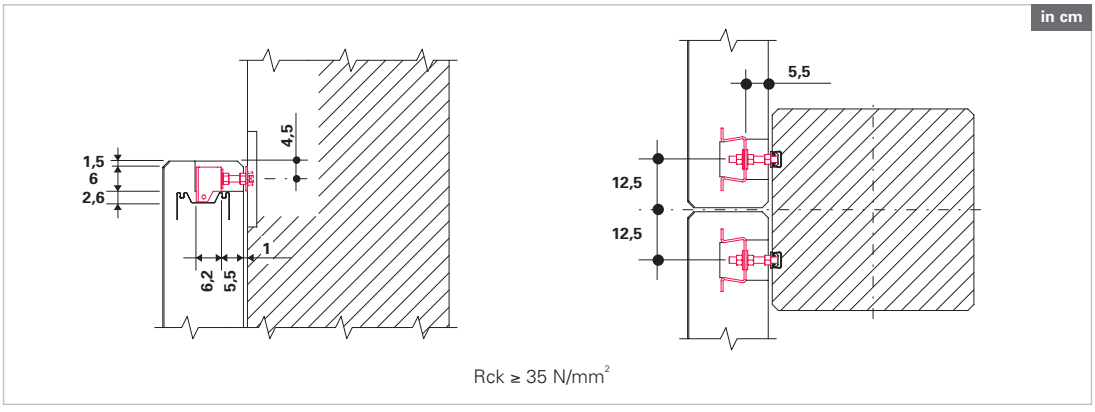


BRACKETING

rac .S.e. dd c ss three 8 4 c c c-
r sr c mm² as s ur . s rac s
ma da r u a cr as .S.e. a ad as s a
a .



SYSTEM PLACEMENT

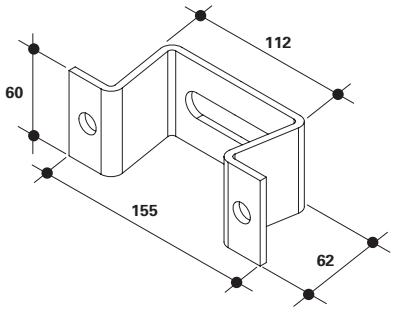


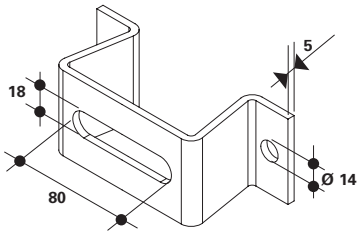
T.S.U. HIDDEN TUBE SYSTEM

To be used with panels realized with ECO 50 - 95 - 115 B.S. Italia reinforcement

in mm

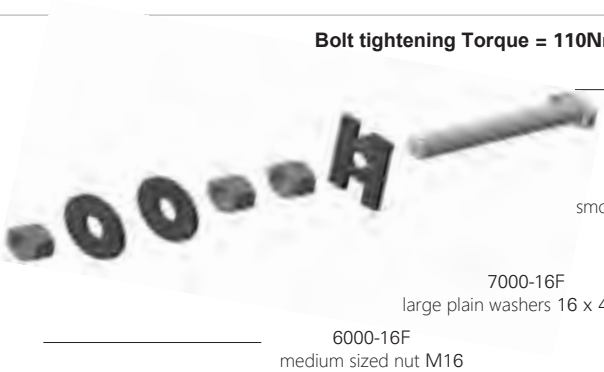
Code 2303-1.5F





EXAMPLE OF ASSEMBLY

Bolt tightening Torque = 110Nm



8015-16F
anchor head screw M16 L=110

7007-16F
smooth double-tabbed washer

7000-16F
large plain washers 16 x 48

6000-16F
medium sized nut M16

The choice of anchor head screw depends on the distance of the panel from the anchorage profile in the structure (for lenghts available see page 52)

T.S.u. HIDDEN TUBE SYSTEM

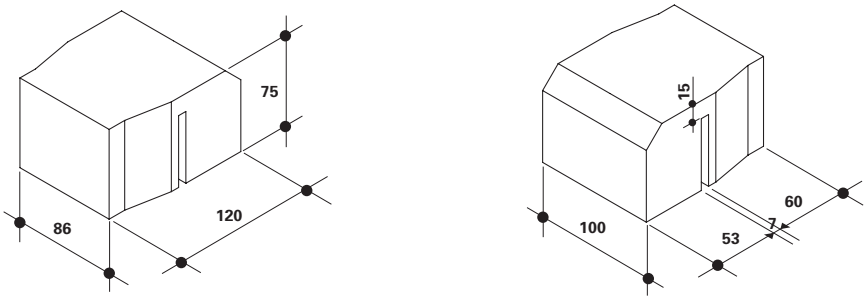
Placement of the T.S.u. hidden pipe in the polystyrene or metallic form

PLACEMENT IN THE FORM

A disposable polystyrene or reusable metal form is used to position the T.S.u. hiddden pipe; the form must be oiled to allow for removal of the concrete element after stripping. The form creates the cavities needed to insert and position the screws that fix the T.S.u.

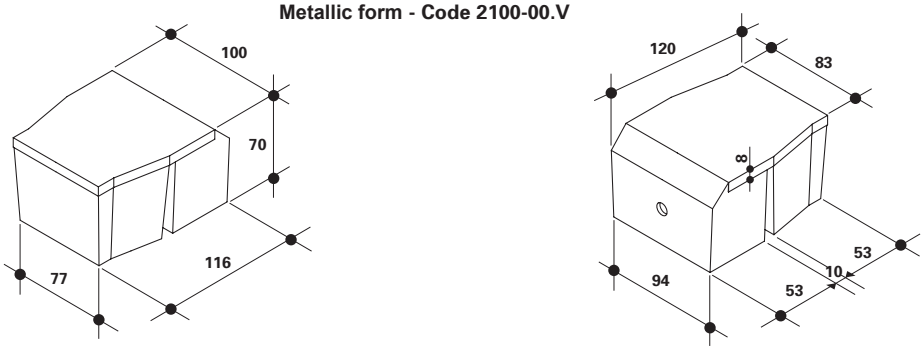
in mm

Polystyrene form - Code 2100-02.P



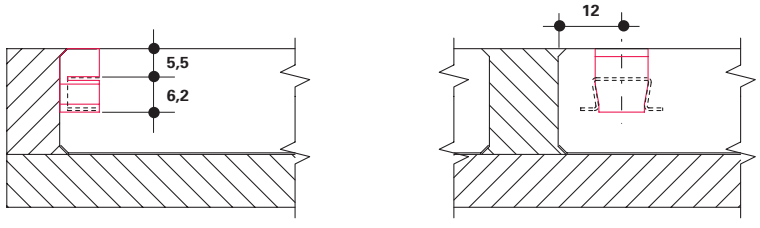
in mm

Metallic form - Code 2100-00.V

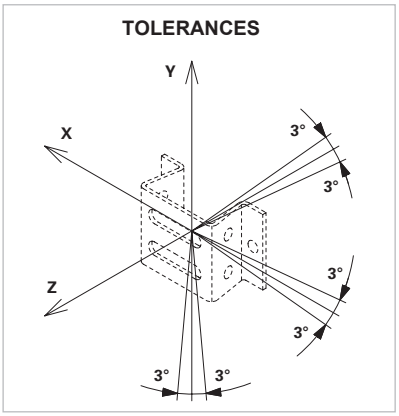


T.S. FORM PLACEMENT

in cm



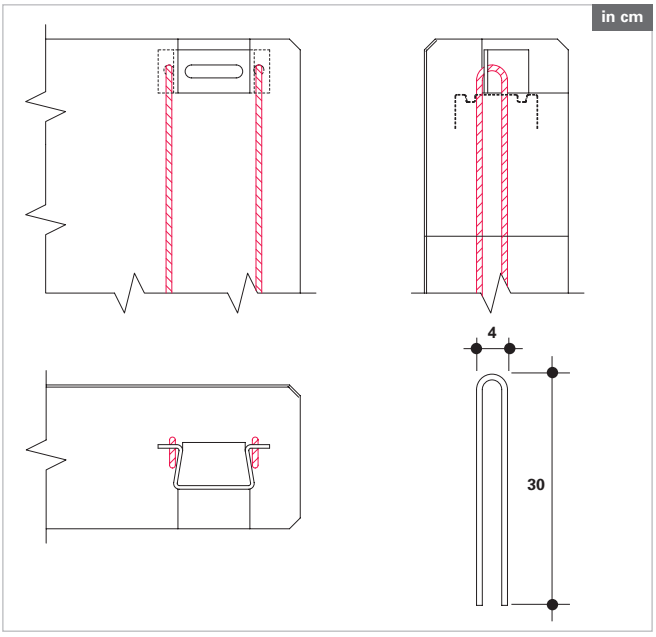
B.S.Italia® Gruppo Styl-Comp



BRACKETING

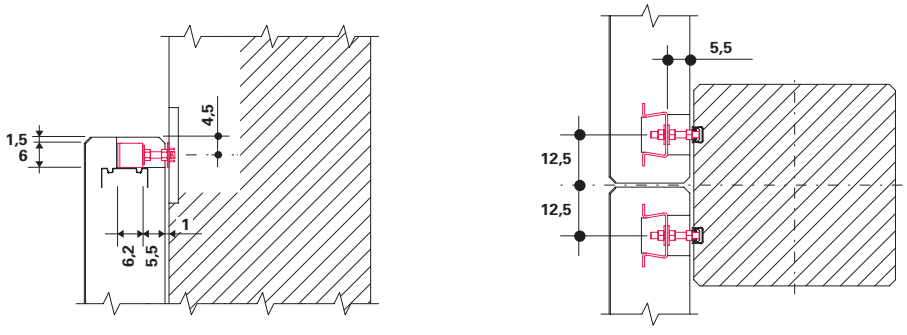
The bracketing of the T.S.u. hidden pipe consist of two Ø8 (B450) Sv=64cm cocncrete strip with Rck ≥ 35 N/mm² as shown in the figure. This bracketing is not mandatory, but allow to increase T.S.u. payload as shown in the table on page 7.

in cm



SYSTEM PLACEMENT

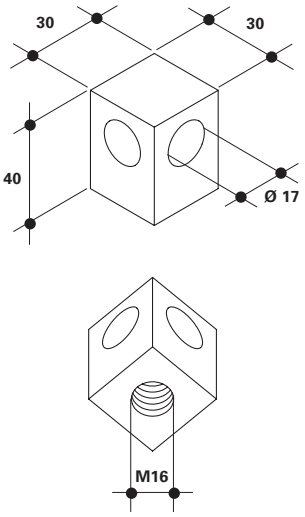
in cm



Rck ≥ 35 N/mm²

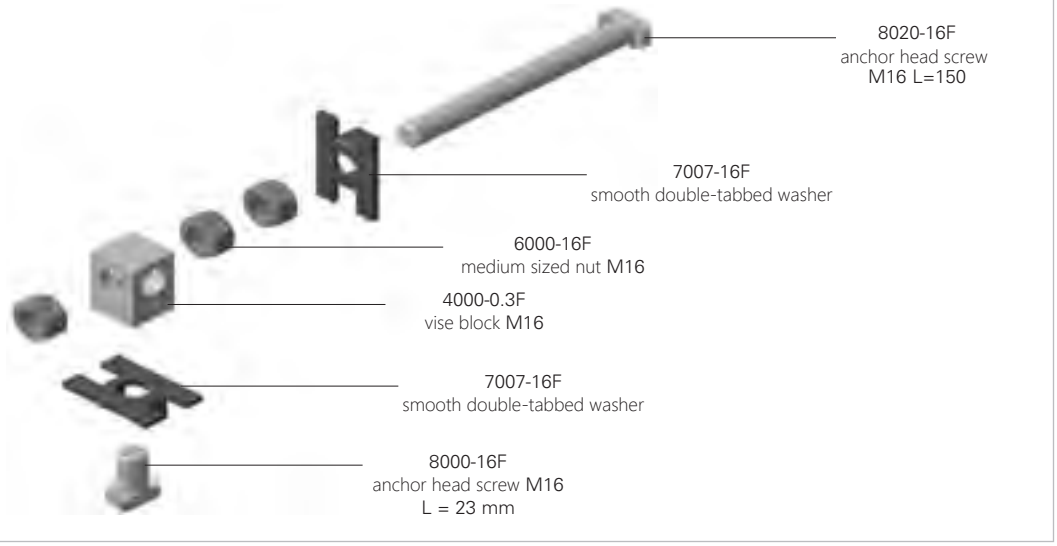
in mm

Code 4000-0.3F



EXAMPLE OF ASSEMBLY

Bolt tightening torque = 110 Nm



The choice of the anchor head screw depends on the distance of the panel from the anchorage profile in the structure. (for lenghts available see page 52)

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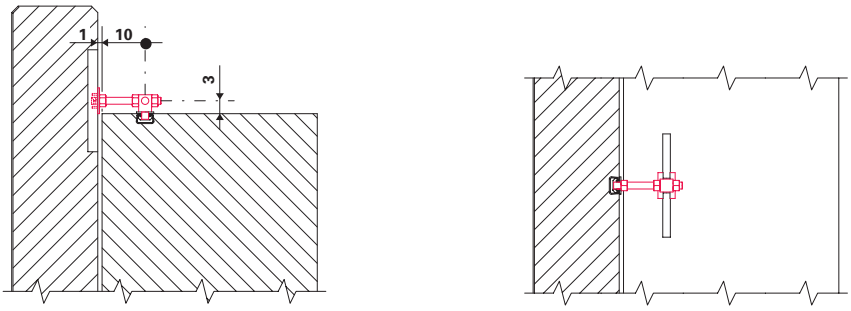
PLACEMENT

in cm

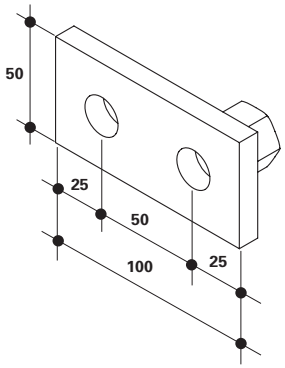


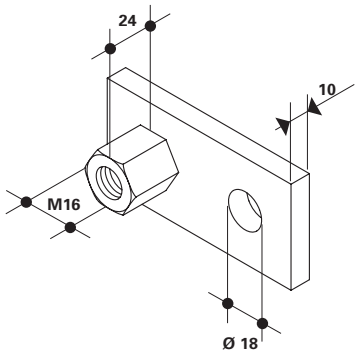
ERROR CORRECTOR FOR HIDDEN TUBES

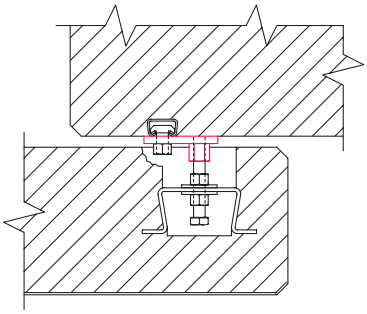
For possible errors in inserting anchorage profiles in columns or hidden tubes in panels, it's available the error corrector. This must be linked first to the hidden pipe and then to the anchorage profile.
For the payload to see table on page 7.

in mm

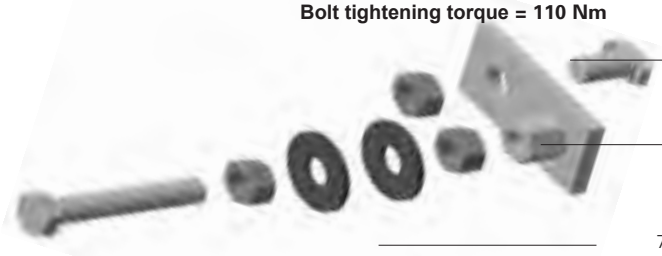
Code CV 0021F







Bolt tightening torque = 110 Nm



8001-16F
Anchor head screw M16 L = 28 mm

CV/0021F
corrector

7000-16F
Large plain washer 16 x 48

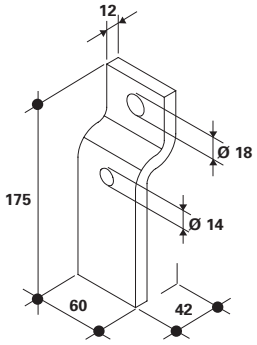
6000-16F
medium sized nut M16

vte 16 x 100
hexagonal head screw M16 L = 100 mm

B.S.Italia®
Gruppo Styl-Comp

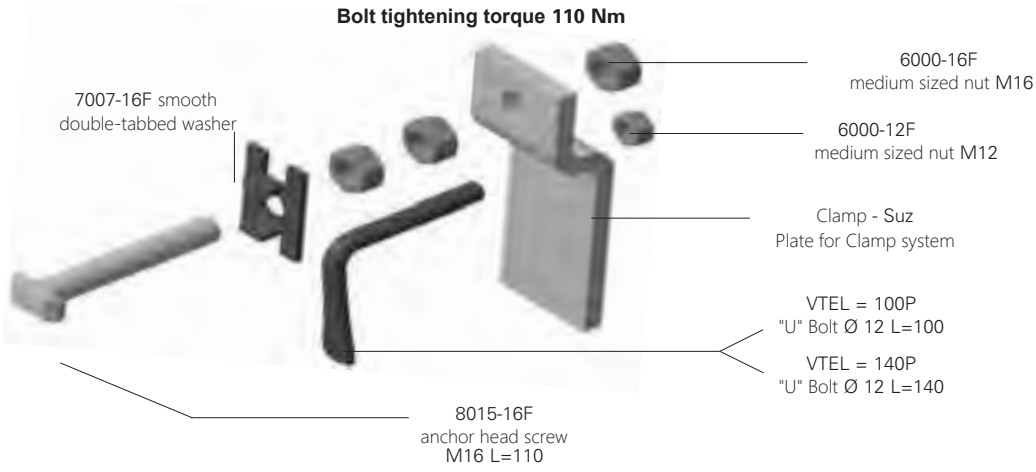
in mm

Clamp code -Suz



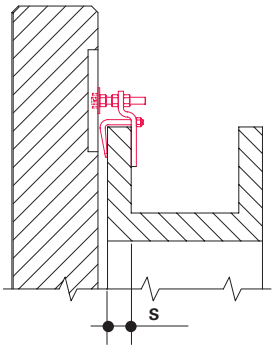
EXAMPLE OF ASSEMBLY

Bolt tightening torque 110 Nm

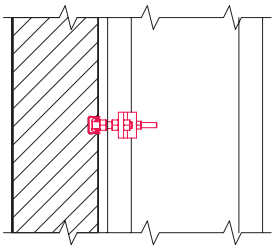


PLACEMENT

in cm



Gutter must be
adequately reinforced



Rck gutter ≥ 35 N/mm^2

"U" Bolt choice varies depending on S:

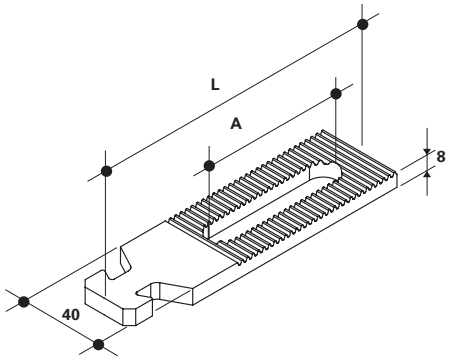
- S = 2 ÷ 6 cm: "U" Bolt VTEL = 100P Ø 12 L = 100
- S = 6 ÷ 10 cm:"U" Bolt VTEL = 140P Ø 12 L = 140

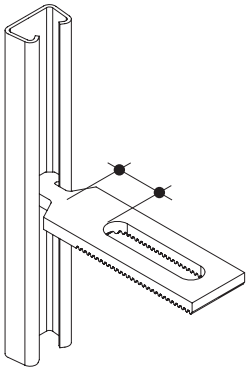
ANTI-SLIPPING SYSTEM

Related to the payload, anti-slipping plates always guarantee greater strenght than the B.S. Italia anchorage profile to which they are fixed.

Code	Type	L	La	Le
4034-01.F	110	110	60	22
4035-01.F	130	130	80	17
4032-01.F	160	160	80	47
4031-01.F	210	210	130	47
4033-01.F	310	310	130	147

in mm





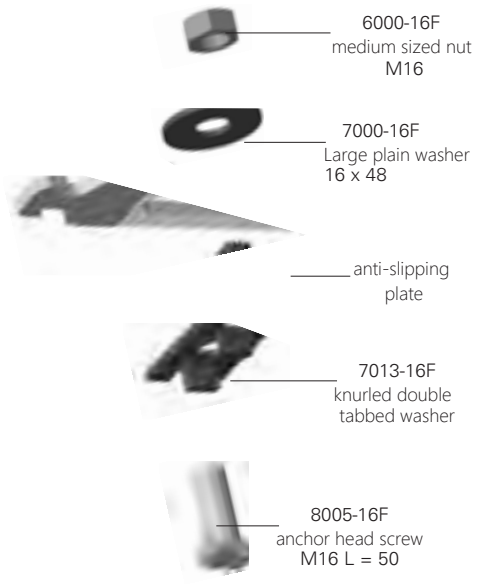
EXAMPLE OF ASSEMBLY

windbracing with double-tabbed washer

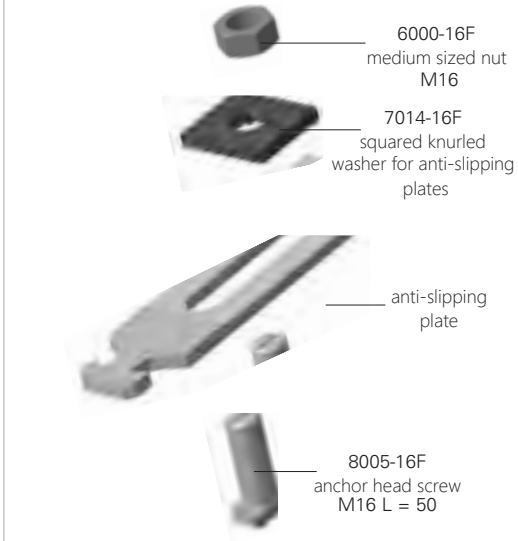
Windbracing with washer thickness 8 mm

ANTI-SLIPPING SYSTEM

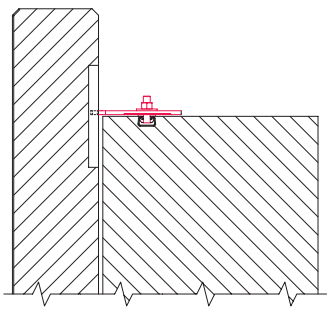
Standard Anti-slipping system
Bolt tightening torque 110 Nm

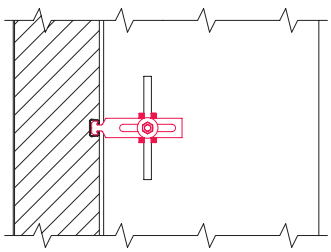


Anti-slipping system variant
Bolt tightening torque 110 Nm



PLACEMENT





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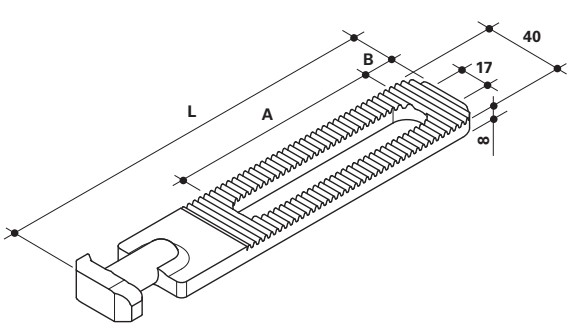
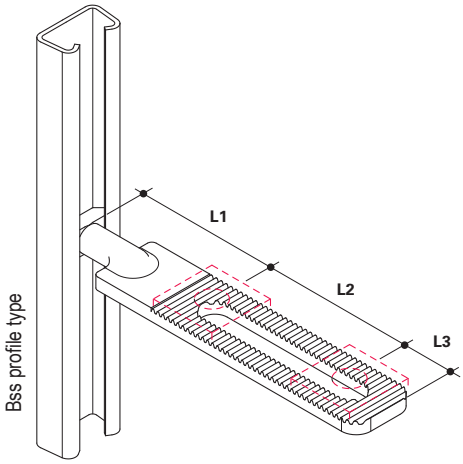
ANTI-SLIPPING SYSTEM (knurled plates with special head)

About the payload, the anti-slipping plates always guarantee higher resistances of the B.S. Italia anchorage system with which they mate.

in mm

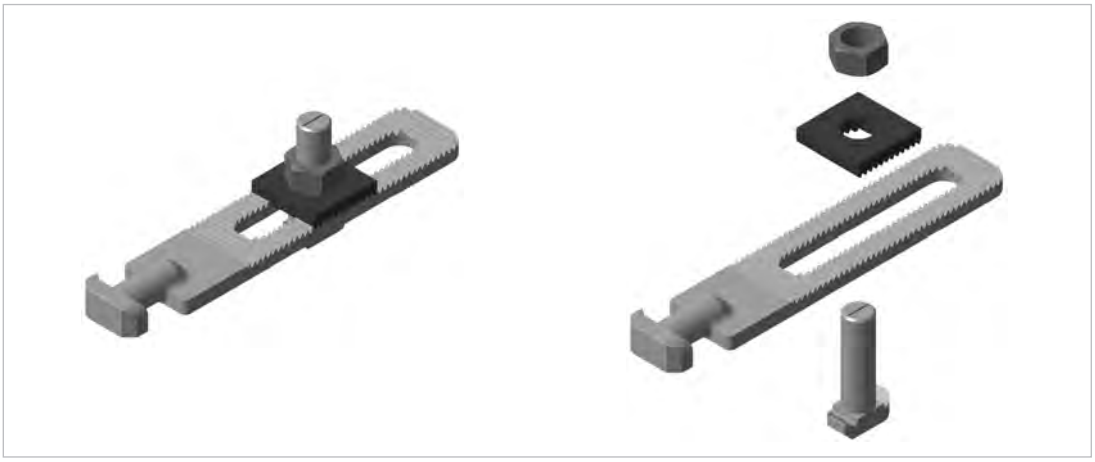




Code	Type	A	B	L	L1	L2	L3
CV/0184F.	110	45	11	111,5	57,5	21	19
CV/0185F.	160	80	15	161,5	60,5	64	23
CV/0186F.	210	110	15	211,5	80,5	94	23
CV/0187F.	310	110	15	311,5	180,5	94	23

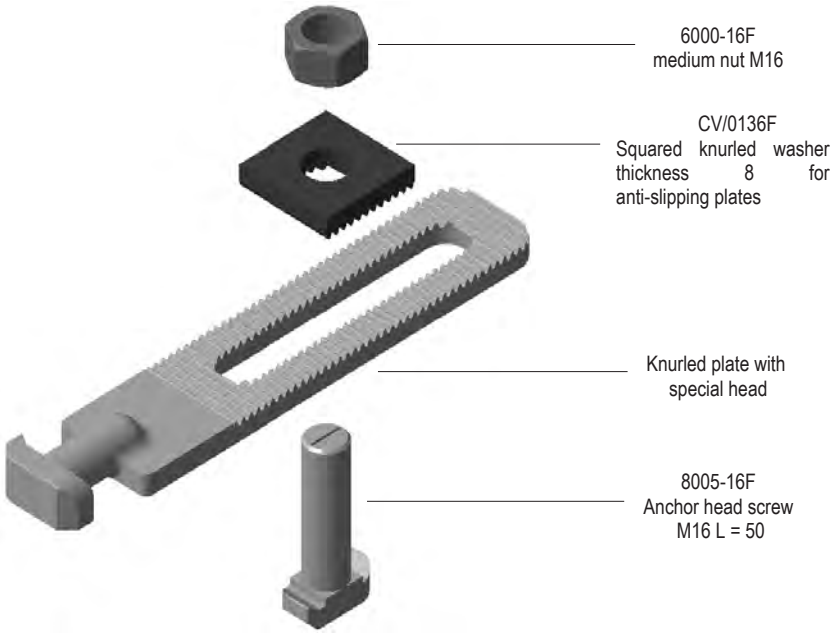
L1 = Distance of the inner side of the artifacts - bolt axis in the minimum regulation;
L2 =Movement allowed with Knurled washer thickness 8;
L3 =Distance of the bolt axis in the maximum regulation -End of the knurled plate

COMPONENTS

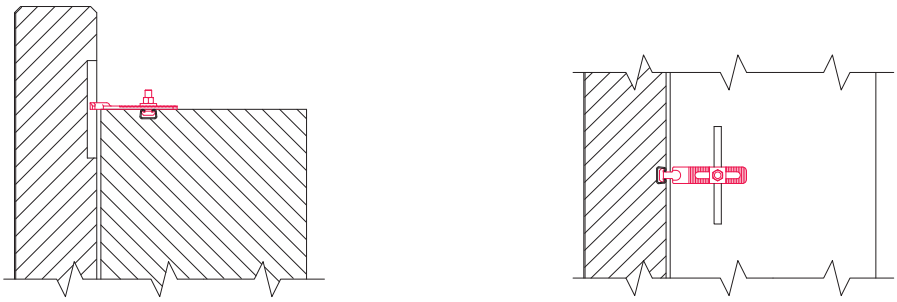


ANTI-SLIPPING SYSTEM (knurled plates with special head)

Bolts tightening torque 110 Nm

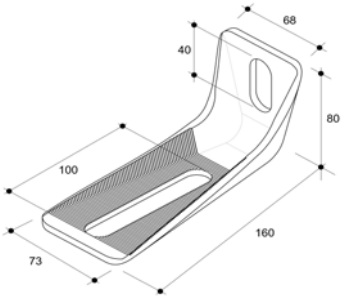


PLACEMENT



DOUBLE-RIBBED BRACKET

Code 4501-00F



in mm

EXAMPLE OF ASSEMBLY

Bolt tightening torque = 110 Nm

8005-16F anchor head screw
M16 L = 50 mm

7000-16F
Large plain washer
16 x 48
o
7004-16F
Standard plain washer

6000-16F
medium sized nut
M16

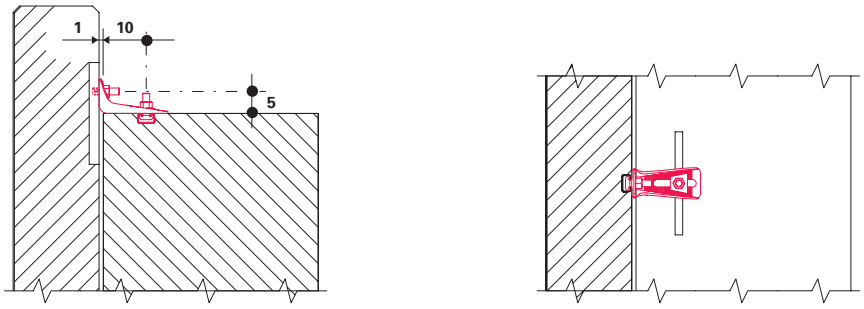
7012-16F
knurled trapezoid washer
for double-ribbed bracket

4501-00F
knurled double-ribbed washer

8005-16F
anchor head screw
M16 L = 50 mm

PLACEMENT

in cm



for the payload to see table on page 7

ANCHORAGE COMPONENTS

ANCHORAGE PROFILE
B.S.s.with spirals

ANCHORAGE PROFILE
B.S.s. with spirals at 90°

ANCHORAGE PROFILE
B.S.s. with straps

ANCHORAGE PROFILE B.S.s.
with swan-necked stirrups

ANCHORAGE PROFILE B.S.s.
with bracketing rebars

ANCHORAGE PROFILE
B.S.s. "DIY"
with long and short screws

B.S.Italia®
Gruppo Styl-Comp

ANCHORAGE COMPONENTS

ANCHORAGE PROFILE
B.S.s. Root with shaped stirrups

ANCHORAGE PROFILE
B.S.c. Root with shaped stirrups

ANCHORAGE PROFILE
B.S.c. "DIY"
with short screws

EXTENSIONS M16

SLIP WASHER

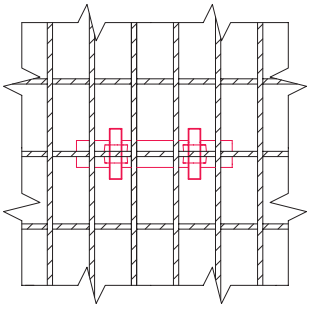
SCREWS

CHOICE OF THE ANCHORAGE PROFILE

B.S.s. anchorage profile is available with various types of bracketings to suit all the types of dense reinforcement. However it should be reminded that, in all cases, concrete must be Rck ≥ 350 Kg/cm2 well stressed and compacted, with continuous adhesion right across and along the anchor profile.

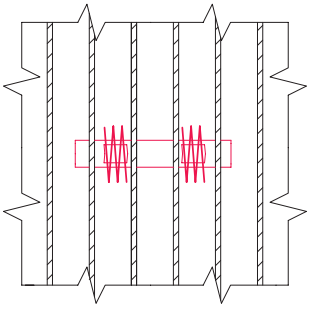
ANCHORAGE PROFILE
B.S.s. with straps

Bracketing with modellable metal strap to be cutted and inserted



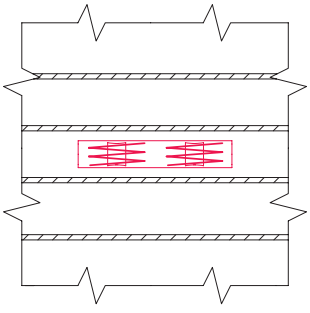
ANCHORAGE PROFILE
B.S.s. with spirals

Bracketing with spirals transverses to the profile (shaped stirrups to be inserted). For smaller thicknesses with possible insertion of rebar



ANCHORAGE PROFILE
B.S.s. with spirals at 90°

Bracketing with spirals longitudinal to the special anchorage profile for strands



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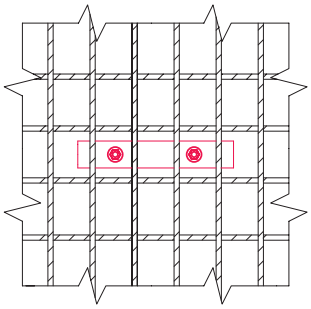
Gruppo Styl-Comp

CHOICE OF THE ANCHORAGE PROFILE

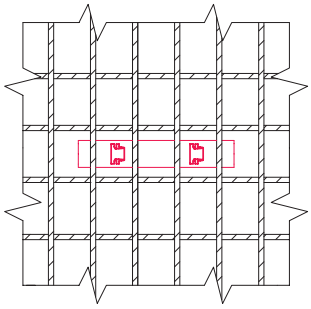
ANCHORAGE PROFILE
B.S.s. "DIY"

Pre-assembled for a faster use



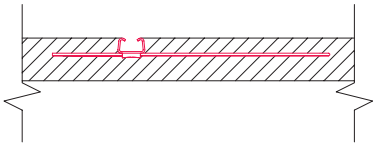
ANCHORAGE PROFILE B.S.s. with swan-necked stirrups

Welded for particular conditions



ANCHORAGE PROFILE
B.S.s. with bracketing rebars

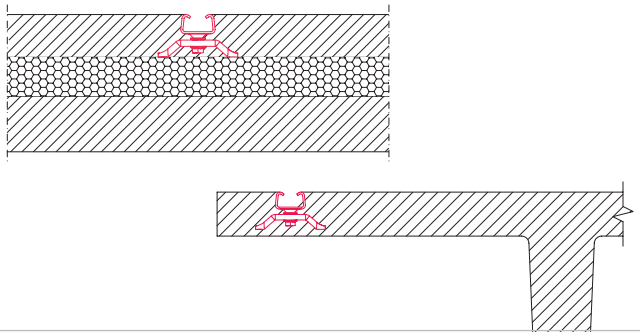
For thin elements



CHOICE OF THE ANCHORAGE PROFILE

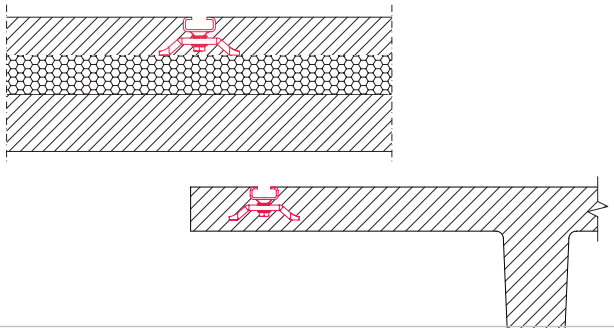
ANCHORAGE PROFILE
B.S.s. Root with shaped stirrups

For thin elements



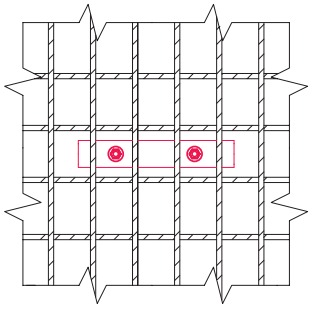
ANCHORAGE PROFILE
B.S.c. Root with shaped stirrups

For thin elements



ANCHORAGE PROFILE
B.S.c. "DIY"
with shorts screws

Pre-assembled for a faster use



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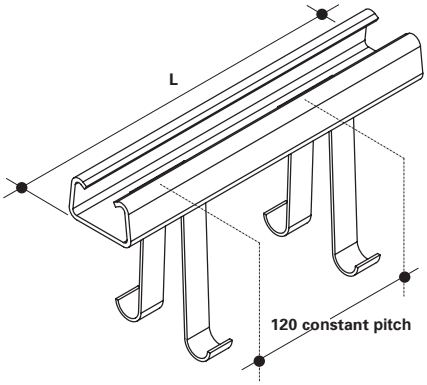
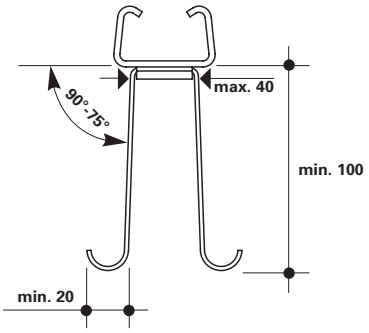
B.S.s. PROFILE WITH STRAPS

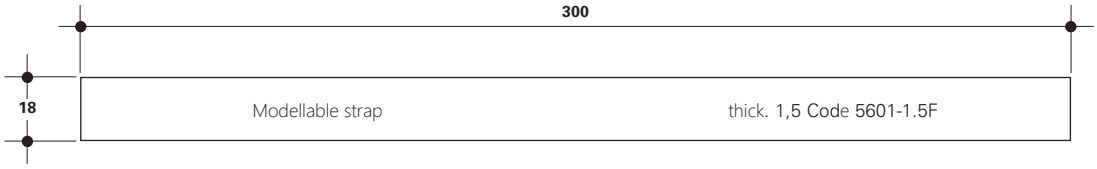
in mm





Profile thickness 2,5 mm

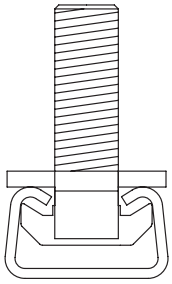
Code (only profile without strap)	L
5701-024S	240
5701-036S	360
5701-048S	480
5701-096S	960
5701-300S	2880



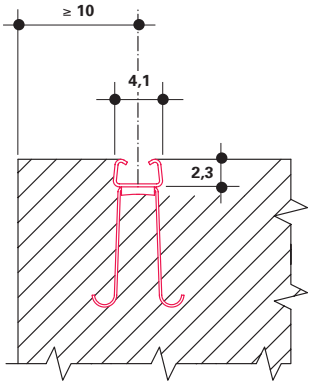
Traction		Shear		Slipping		
S.L.E.	U.L.S.	S.L.E.	U.L.S.	S.L.E.	U.L.S.	
10 kN	15 kN	10 kN	15 kN	2 kN	3 kN	Concentrate paylod (every 24cm)
40kN	60 kN	40 kN	60 kN	8 kN	12 kN	Distribuited paylod (ml)
Concrete with Rck ≥35 N/mm².						

PLACEMENT

in cm

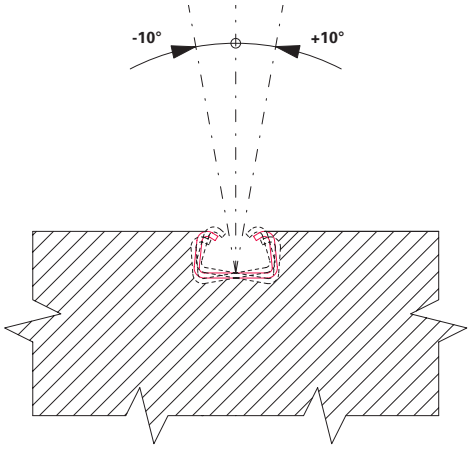


Bolt M16 Anchor head to be used with double-tabbed washers.
Bolt tightening torque = 110 Nm

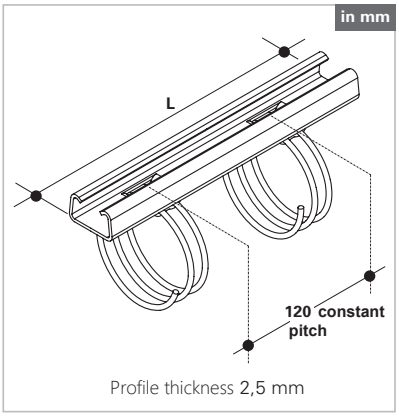


Concrete with Rck ≥ 35 N/mm^2

TOLERANCES



B.S.S. PROFILE WITH SPIRALS



Profile thickness 2,5 mm

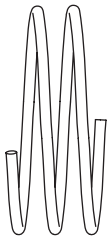
This profile can be used in artifacts with variable thickness, such as tiles and panels with special recesses, or thin elements.

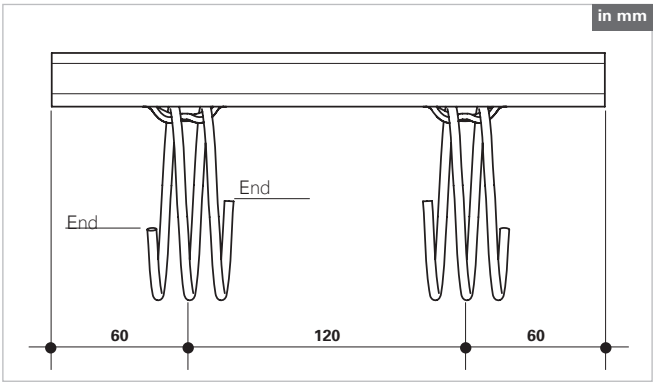
Code (only profile without stirrups)	L
5701-024S.	240
5701-036S.	360
5701-048S.	480
5701-096S.	960
5701-300S.	2880

Traction		Shear		Slipping		
S.L.E.	U.L.S.	S.L.E.	U.L.S.	S.L.E.	U.L.S.	
8 kN	12 kN	8 kN	12 kN	2 kN	3 kN	Concentrate paylod (every 24cm)
32kN	48 kN	32 kN	48 kN	8 kN	12 kN	Distribuited paylod (ml)
Concrete with Rck ≥35 N/mm².						

The best working position for the brackets is the point where the two ends of the spiral are on the axis of the circumference parallel to the profile.

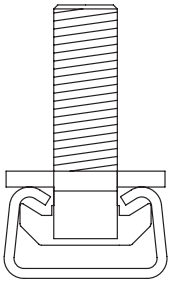
Bracket with 2,5 turns - Code 5600-04Z



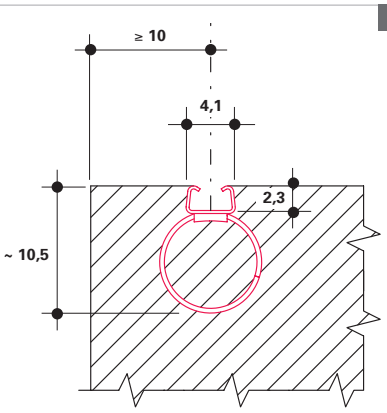


PLACEMENT

in cm



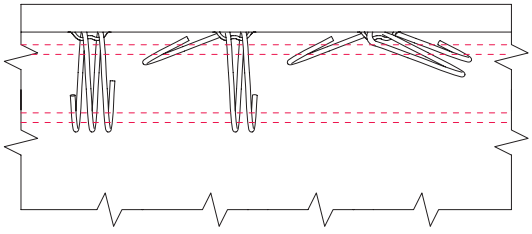
Anchor head bolt M16 to be used with double-tabbed washers..Bolt tightening torque = 110 Nm



Concrete with Rck ≥ 35 N/mm^2

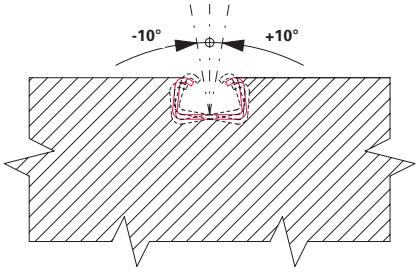
EXTRA BRACKETING

La staffatura aggiuntiva può essere inserita quando ritenuto necessario ma è obbligatoria in spazi ridotti. Essa consiste in almeno un tondino Ø 8 SV.=60 cm.



Staffe a spirale 2,5 spire - Staffa doppia Cod. 5600-04Z
Staffatura aggiuntiva con tondino

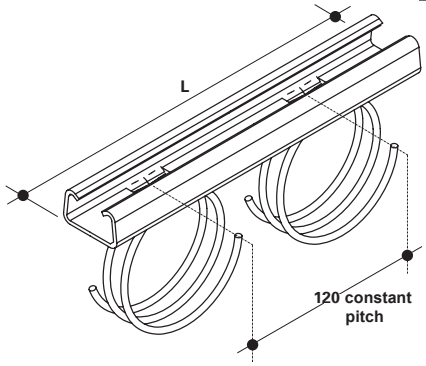
TOLERANCES



B.S.Italia® Gruppo Styl-Comp

B.S.S. PROFILE WITH SPIRALS AT 90°

in mm



Profile thickness 2,5 mm

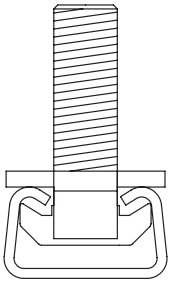
Code (only profile without stirrups)	L
5700-024S	240
5700-036S	360
5700-048S	480
5700-096S	960
5700-300S	2880

Traction		Shear		Slipping		
S.L.E.	U.L.S.	S.L.E.	U.L.S.	S.L.E.	U.L.S.	
8 kN	12 kN	8 kN	12 kN	2 kN	3 kN	Concentrate paylod (every 24cm)
32kN	48 kN	32 kN	48 kN	8 kN	12 kN	Distribuited paylod (ml)
Concrete with Rck ≥35 N/mm².						

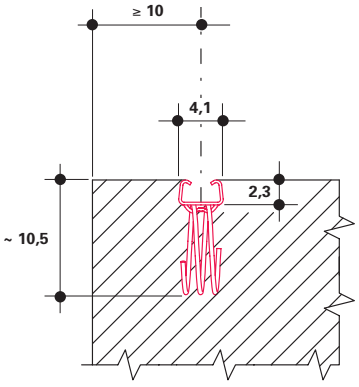
B.S.S. PROFILE WITH SPIRALS AT 90°

PLACEMENT

in cm

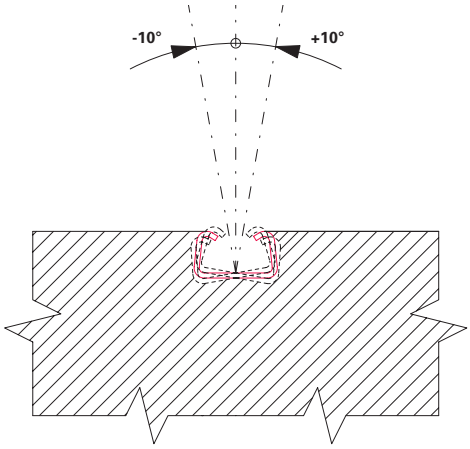


Anchor head M16 bolt to be used with double-tabbed washers. Bolt tightening torque = 110 Nm



Concrete with Rck ≥ 35 N/mm^2

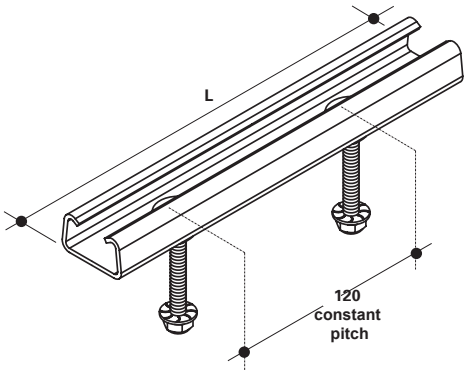
TOLERANCES



B.S.Italia® Gruppo Styl-Comp

B.S.S. PROFILE "DIY" WITH LONG AND SHORT SCREWS

in mm



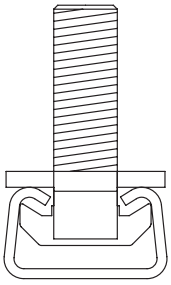
Profile thickness 2,5 mm

L profile	Profile with long screws	Profile with short screws
240	5710-024S	5711-024S
360	5710-036S	5711-036S
480	5710-048S	5711-048S
960	5710-096S	5711-096S
2880	5710-300S	5711-300S

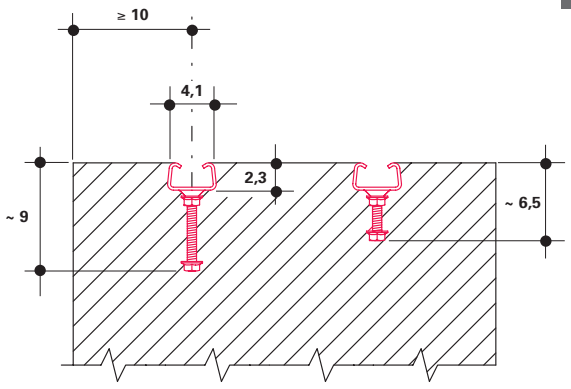
	Traction		Shear		Slipping		
	S.L.E.	U.L.S.	S.L.E.	U.L.S.	S.L.E.	U.L.S.	
Short screws	10 kN	15 kN	10 kN	15 kN	2 kN	3 kN	Concentrate paylod (every 24cm)
	40 kN/ml	60 kN/ml	40 kN/ml	60 kN/ml	8 kN/ml	12 kN/ml	Distribuited paylod (ml)
Long screws	12 kN	18 kN	12 kN	18 kN	2 kN	3 kN	Concentrate paylod (every 24cm)
	48 kN/ml	72 kN/ml	48 kN/ml	72 kN/ml	8 kN/ml	12 kN/ml	Distribuited paylod (ml)
Concrete with Rck ≥35 N/mm².							

PLACEMENT

in cm



Bullone M16 Testa d'ancora da utilizzare
con rondelle a doppio incastro.
Coppia di serraggio = 110 Nm

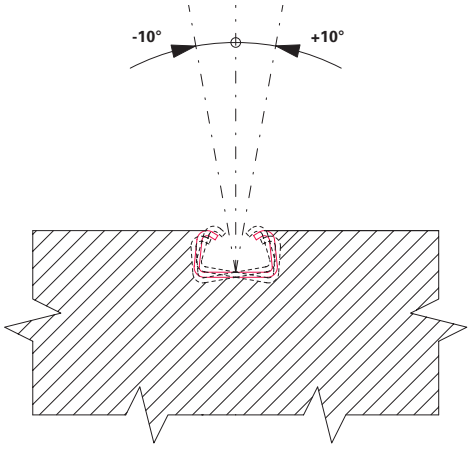


Profile with long screws

Profile with short screws

Concrete with Rck ≥ 35 N/mm^2

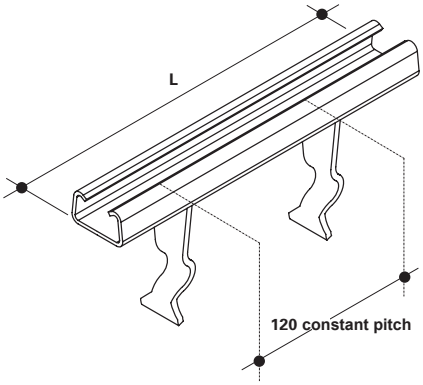
TOLERANCES



B.S.Italia® Gruppo Styl-Comp

B.S.S. PROFILE WITH SWAN-NECKED STIRRUPS

in mm



Profile thickness 2,5 mm

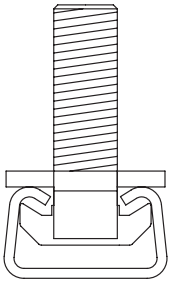
Code	L
5040-024S	240
5040-036S	360
5040-048S	480
5040-096S	960
5040-300S	2880

Traction		Shear		Slipping		
S.L.E.	U.L.S.	S.L.E.	U.L.S.	S.L.E.	U.L.S.	
10 kN	15 kN	8 kN	12 kN	2 kN	3 kN	Concentrate paylod (every 24cm)
40kN	60 kN	32 kN	48 kN	8 kN	12 kN	Distribuited paylod (ml)
Concrete with Rck ≥35 N/mm².						

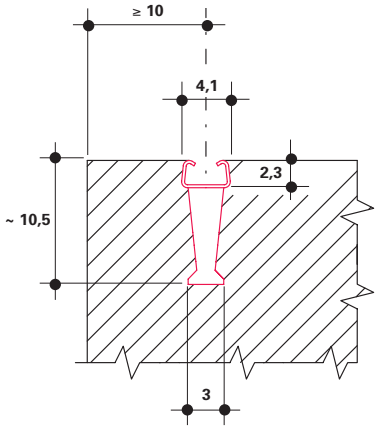
B.S.S. PROFILE WITH SWAN-NECKED STIRRUPS

PLACEMENT

in cm

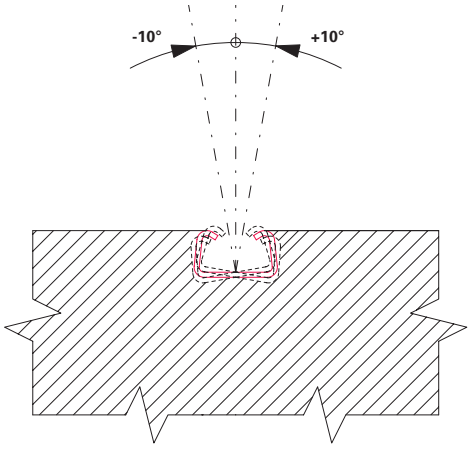


Anchor head M16 bolt to be used with double-tabbed washers. Bolt tightening torque = 110 Nm



Concrete with Rck ≥ 35 N/mm^2

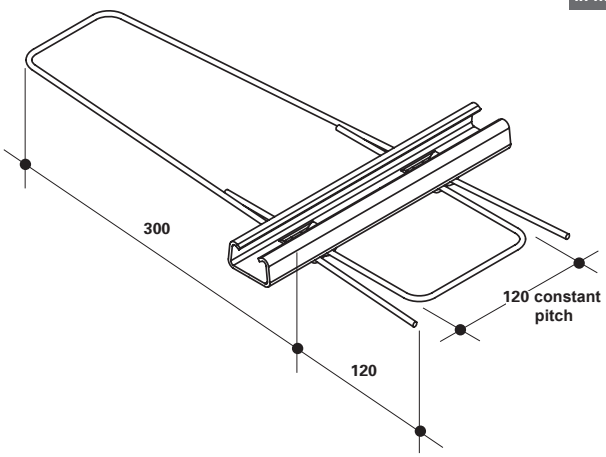
TOLERANCES



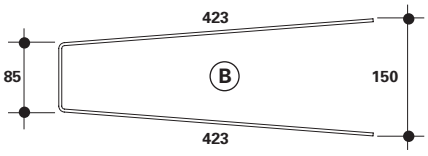
B.S.Italia® Gruppo Styl-Comp

B.S.S. PROFILE WITH BRACKETING REBARS

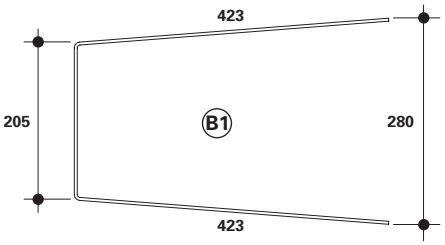
in mm



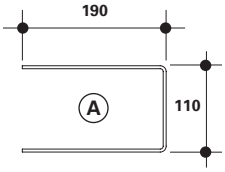
in mm



Strip Ø 4 SV= 93 cm
Code 97/142G



Strip Ø 4 SV= 105 cm
Code 98/090G
(To be used with B.S.S. L = 360 mm and a 2 Type A strip)



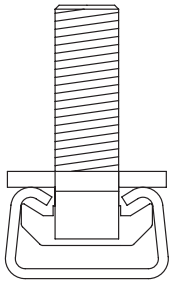
Strip Ø 4 SV= 49 cm
Code 98/090P

Code (only profile without rebars)	L
5701-024S.	240
5701-036S.	360
5701-048S.	480
5701-096S.	960
5701-300S.	2880

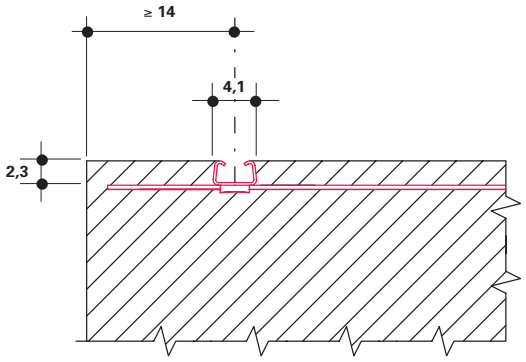
Traction		Shear		Slipping		
S.L.E.	U.L.S.	S.L.E.	U.L.S.	S.L.E.	U.L.S.	
8 kN	12 kN	8 kN	12 kN	2 kN	3 kN	Concentrate paylod (every 24cm)
32kN	48 kN	32 kN	48 kN	8 kN	12 kN	Distribuited paylod (ml)
Concrete with Rck ≥35 N/mm².						

PLACEMENT

in cm

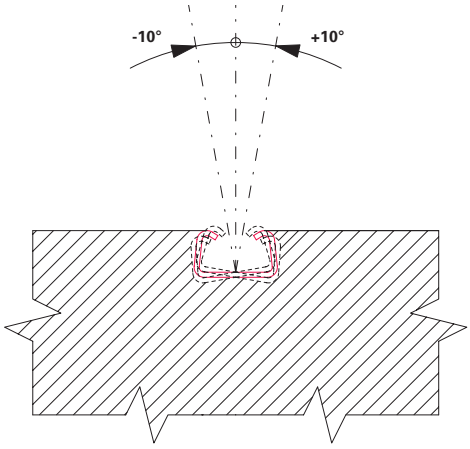


Anchor head M16 bolt to be used with double-tabbed washers. Bolt tightening torque = 110 Nm



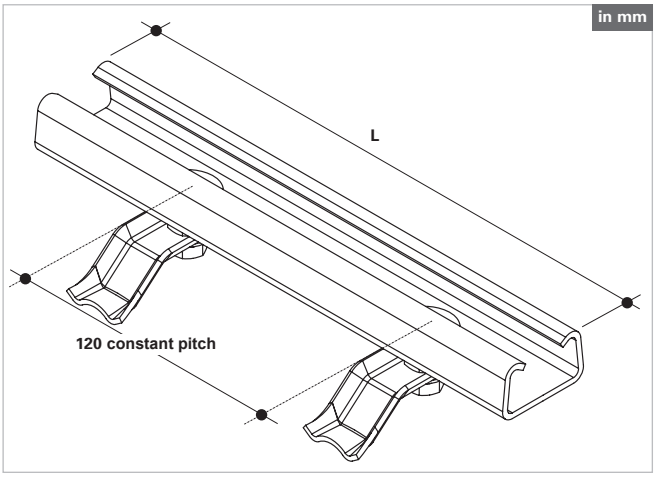
Concrete with Rck ≥ 35 N/mm^2

TOLERANCES



B.S.S. PROFILE "ROOT" WITH SHAPED STIRRUPS

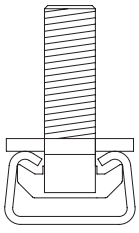
in mm



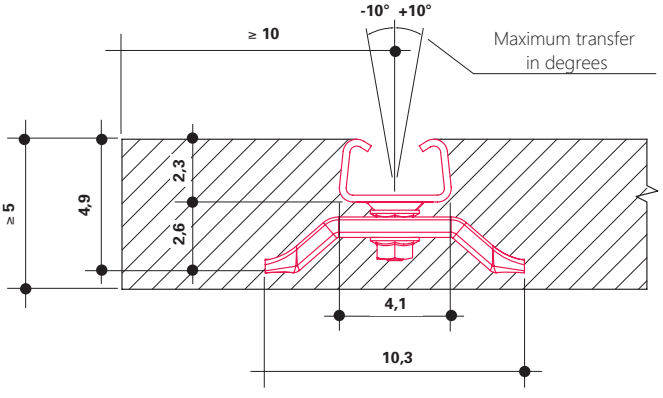
Code	L
5703-024S	240
5703-036S	360
5703-048S	480
5703-096S	960
5703-300S	2880

Traction		Shear		Slipping		
S.L.E.	U.L.S.	S.L.E.	U.L.S.	S.L.E.	U.L.S.	
10 kN	15 kN	10 kN	15 kN	2 kN	3 kN	Concentrate paylod (every 24cm)
40kN	60 kN	40 kN	60 kN	8 kN	12 kN	Distribuited paylod (ml)
Concrete with Rck ≥35 N/mm².						

in cm

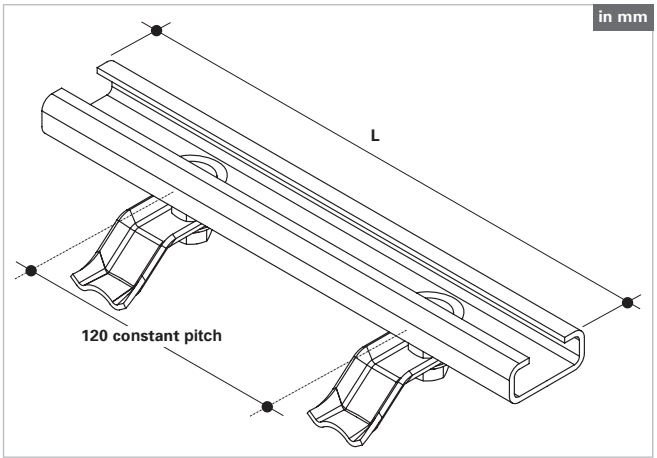


M16 Anchor head bolt
to be used with double-tabbed washers
Bolt tightening torque = 110 Nm



B.S.C. PROFILE "ROOT" WITH SHAPED STIRRUPS

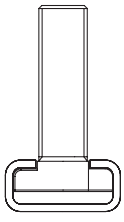
in mm



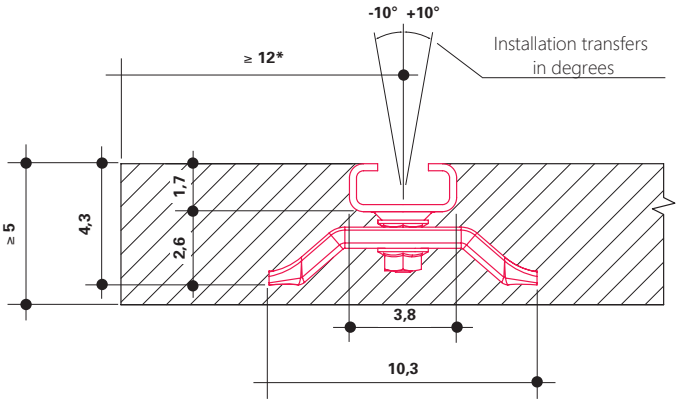
Code	L
5705-024S	240
5705-036S	360
5705-048S	480
5705-096S	960
5705-300S	2880

Traction		Shear		Slipping		
S.L.E.	U.L.S.	S.L.E.	U.L.S.	S.L.E.	U.L.S.	
8 kN	12 kN	8 kN	12 kN	2 kN	3 kN	Concentrate paylod (every 24cm)
32kN	48 kN	32 kN	48 kN	8 kN	12 kN	Distribuited paylod (ml)
Concrete with Rck ≥35 N/mm².						

in cm



M16 hammer head bolt. Bolt tightening torque = 110 Nm

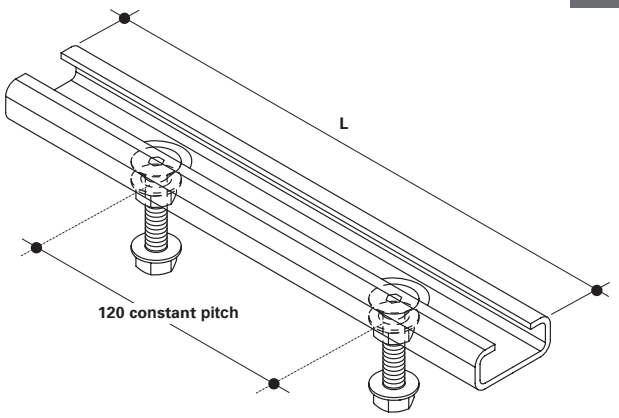


*This distance can be reduced to 10 cm with Rck ≥ 45 N/mm²

B.S.Italia® Gruppo Styl-Comp

B.S.C. PROFILE "DIY" WITH SHORT SCREWS

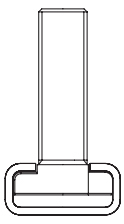
in mm



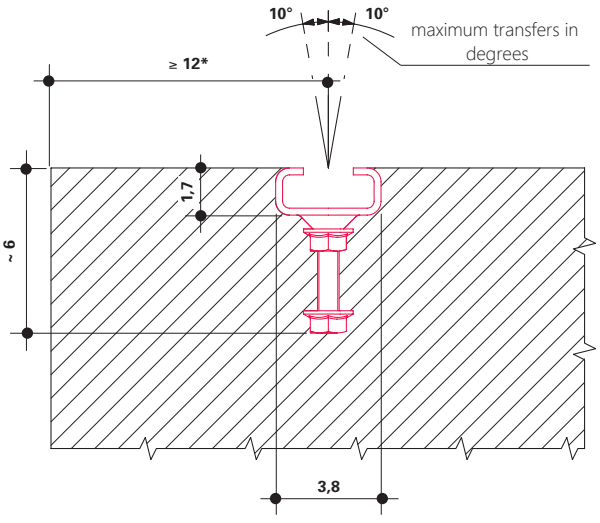
Code	L
5731-024S	240
5731-036S	360
5731-048S	480
5731-096S	960
5731-300S	2880

Tracciòn		Corte		Desplazamiento		
E.L.E.	E.L.U.	E.L.E.	E.L.U.	E.L.E.	E.L.U.	
8 kN	12 kN	8 kN	12 kN	2 kN	3 kN	Carga puntual (cada 24cm)
32kN	48 kN	32 kN	48 kN	8 kN	12 kN	Carga distribuida (ml)
Hormigon con Rck ≥35 N/mm².						

in cm



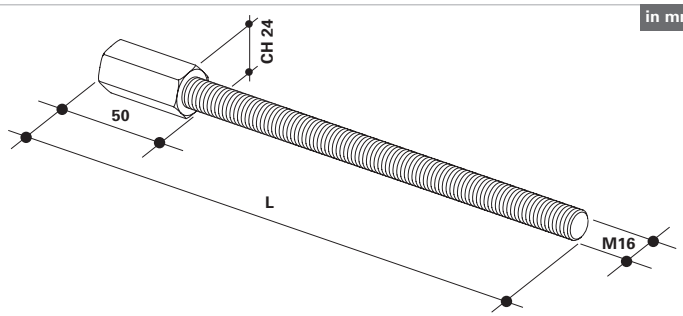
M16 hammer head bolt. Bolt tightening torque = 110 Nm



*This distance can be reduced to 10 cm with Rck ≥ 45 N/mm²

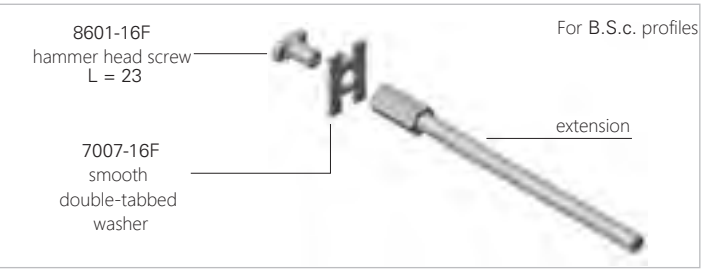
EXTENSION M16

in mm



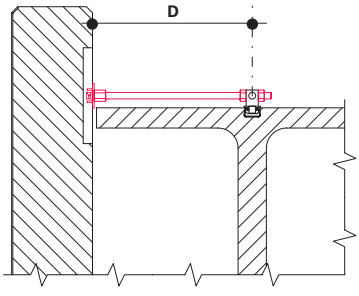
Extension Code	L
00/077	120
01/087	200
00/037	280
8045-16F	300
96/148	350
8049-16F	450
8048-16F	500
98/013	550
98/089	600
97/099	650
96/146	700
99/011	800
CV/0022	1300

B.S. Italia can supply, upon request, extensions of any lenght.



EXAMPLE OF UTILIZATION

in cm



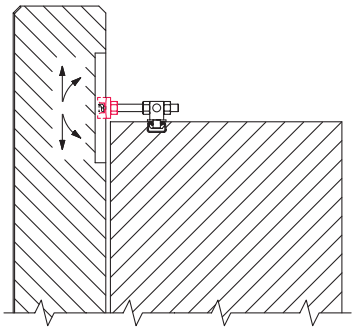
N.B.: per D > 30 cm, the bar can work only tractioning. So contacts between panel and structure must be guaranteed.

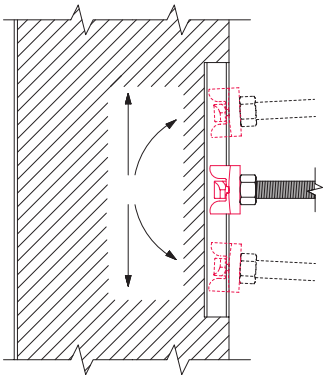
M16 SLIP WASHER

Cod. 7003-16F

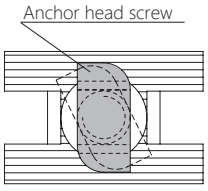
The Slip Washer lets you shift and turn the windbracing system to follow movemets in the concrete element caused by expansion, accidental loads, etc... in other words, it makes for carriage restraint.
It has a dual function:
- Safety: it prevents the anchor head screws for turning.
- Sliding: it allows for expansion and movements between the panel and the structure

PLACEMENT





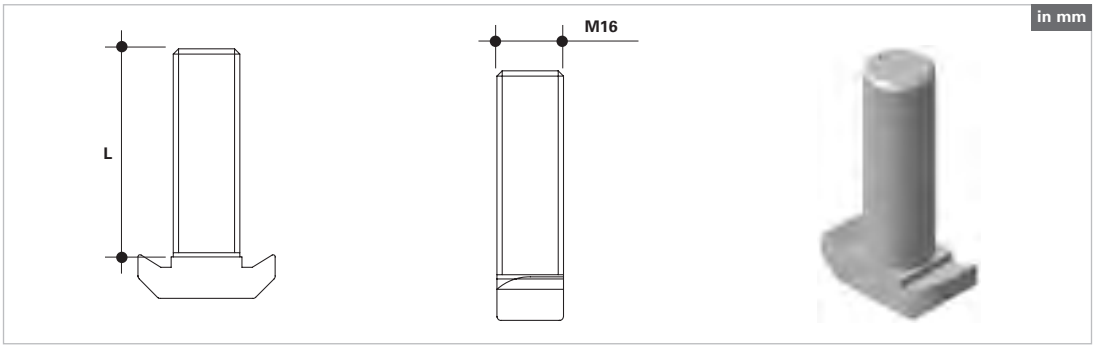
Double-tabbed "safety" washer (prevents the Anchor head screws from turning)



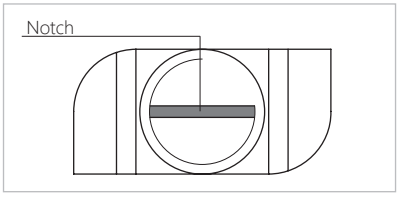
Plain washer with "rest" function

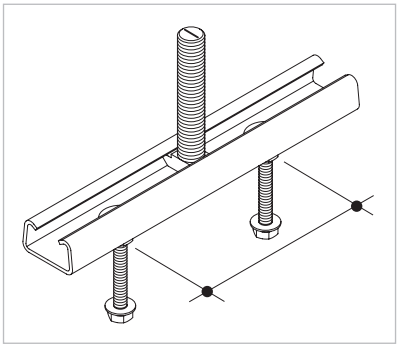
Knurled "anti-slipping" washers

ANCHOR HEAD SCREW



Code	L
8000-16F*	23
8005-16F*	50
8010-16F*	85
8015-16F*	110
8018-16F*	125
8020-16F*	150
8019-16F*	170
8025-16F*	200
8030-16F*	250

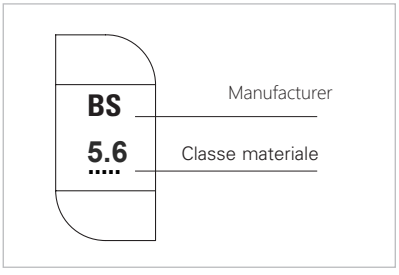




PLACEMENT

The notch at the end of the threaded shaft indicates the position of the screw when inserted in the anchor profile and the anchor head is not visible. (The notch and the screw head are parallel)

Anchor head screws must be used only with B.S. Italia anchorage profiles, in a position within the gap (I) between the two brackets of the profile itself.



For any doubt about the correct use of the components described in this manual, please contact:

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tel +39 035 671746 • fax +39 035 672265
www.bs-italia.it • tecnico@bs-italia.191.it

WELDINGS OR MODIFICATIONS

Weldings or modifications of any component of the REGOLABILI system are not permitted where this may cause a reduction in payload, changes to the technical features of the materials or lead to unsafe working conditions.
B.S. Italia cannot be responsible for any damage or injury as the result of modifications to its products or individual components.

REPLACING OR EXCHANGING OF THE COMPONENTS

The products that B.S. Italia manufactures and supplies are designed as part of an inseparable system for the windbracing of pre-assembled / pre-stressed concrete elements.
So spare parts manufactured by third parts are not authorized.

DESIGN MODIFICATIONS

B.S. Italia reserves the right of change the design of the components and / or accessories and / or payloads at anytime, without prior notice.

CALCULATIONS

For inserts and reinforcements is necessary to follow strictly the indications stated in this manual. In any case the concrete artifact designer is responsible for the choice of the correct component in REGOLABILI system, related to the application and the stresses in question.

For each design, in accordance with local regulations, an individual must be appointed as responsiblefor the safety of the workplace. A detailed assembly plan must be issued and followed. This manual should always be present and available on site and handed to the relevant managers: in production, storage and on site.

Codes

Description	Code
Vise Block	
	4000-0.3F

Anti-Slipping plate	
L = 110	4034-01.F
L = 160	4032-01.F
L = 210	4031-01.F
L = 310	4033-01.F

Knurled washer thickness 8 mm	
For anti-slipping plate	CV0136F

Clamp	
1000 Kg	PINZA-SUZ

"U" Bolt	
Ø 12 L = 140	15/011

B.S.s. Profile (to be used with straps, spirals or rebars)	
L = 240	5701-024S.
L = 360	5701-036S.
L = 480	5701-048S.
L = 960	5701-096S.
L = 2880	5701-300S.

CODES

	Description	Code
	**B.S.s. Profile with plackets at 90° (to be used only with spirals)**	
	L = 240	5700-024S
	L = 360	5700-036S
	L = 480	5700-048S
	L = 960	5700-096S
	L = 2880	5700-300S
	**Modellable strap for B.S.s. profile**	
	Sp.1,5 mm	5601-1.5F
	**Strip**	
	Ø 4 SV= 49 cm	98/090P
	**Strip**	
	Ø 4 SV= 93 cm	97/142G
	**Strip**	
	Ø 4 SV= 105cm	98/090G
	**Spiral Bracket for B.S.s. profile**	
	2,5 spire	5600-04Z
	**B.S.s. profile with swan-necked stirrups**	
	L = 240	5040-024C
	L = 360	5040-036C
	L = 480	5040-048C
	L = 960	5040-096C
	L = 2880	5040-300C
	**B.S.s. Profile "DIY" with short screws**	
	L = 240	5711-024S
	L = 360	5711-036S
	L = 480	5711-048S
	L = 960	5711-096S
	L = 2880	5711-300S

Codes

Description	Code
B.S.s.profile DIY with long screws	
L = 240	5710-024S
L = 360	5710-036S
L = 480	5710-048S
L = 960	5710-096S
L = 2880	5710-300S

B.S.s. profile Root with shaped stirrups	
L = 240	5703-024S
L = 360	5703-036S
L = 480	5703-048S
L = 960	5703-096S
L = 2880	5703-300S

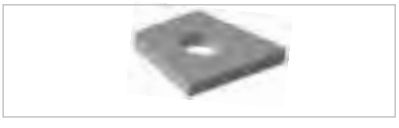
M16 Anchor head screw (for B.S.s. profiles)	
L = 23	8000-16F*
L = 50	8005-16F*
L = 85	8010-16F*
L = 110	8015-16F*
L = 125	8018-16F*
L = 150	8020-16F*
L = 170	8019-16F*
L = 200	8025-16F*
L = 250	8030-16F*

B.S.c. profile Root with shaped stirrups	
L = 240	5705-024S
L = 360	5705-036S
L = 480	5705-048S
L = 960	5705-096S
L = 2880	5705-300S

Description	Code
B.S.c. profile DIY with short screws	
L = 240	5731-024S
L = 360	5731-036S
L = 480	5731-048S
L = 960	5731-096S
L = 2880	5731-300S

M16 Hammer head screw (for B.S.c. profiles)	
L = 23	8601-16F
L = 28	8603-16F
L = 35	8606-16F
L = 50	8600-16F
L = 85	8605-16F
L = 110	8610-16F
L = 125	8618-16F
L = 150	8621-16F
L = 200	8615-16F

Double-ribbed bracket	
	4501-00.F



Washers	
Knurled trapezoid washer for double-ribbed brack.	7012-16F

T.S.z. Hidden tube	
	2300-1.5F

T.S.e. Hidden tube	
	2301-1.5F

Codes

	Description	Code
	**T.S.z.(O) Hidden tube**	
		2302-1.5F
	**Washers**	
	Knurled washer for T.S.z.(O)	7009-16F
	**T.S.u. Hidden tube**	
		2303-1.5F
	**Corrector for hidden tubes**	
		CV/0021F
	**M16 Screw**	
	L = 100	VTE 16 x 100F
	**Nut**	
	Medium sized nut M12	6000-12F
	Medium sized nut M16	6000-16F
	**Form for hidden tubes**	
	Metallic form	2100-00.V
	Polystyrene form	2100-02.P

Description	Code
M16 Extension	
L = 120	00/077F
L = 200	01/087F
L = 280	00/037F
L = 300	8045-16F
L = 350	96/148F
L = 450	8049-16F
L = 500	8048-16F
L = 550	98/013F
L = 600	98/089F
L = 650	97/099F
L = 700	96/146F
L = 800	99/011F
L = 1300	CV/0022F

Washers	
Smooth double-tabbed washer	7007-16F

Washers	
Large plain washer 16 x 48 mm	7000-16F

Washers	
Small plain washer 16 x 30 x 3 mm	7004-16F

Washers	
Slip washer M16	7003-16F

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