

PRODUCT CATALOGUE

construction anchors

CONTENTS

ABOUT CONSTRUCTION ANCHORS PRODUCT SELECTION BASE MATERIAL ANCHOR FUNCTIONING MECHANIS TYPES OF INSTALLATION CORROSION & FINISH LOADS, FORCES & DEIGN INFLUENC SECTION 1 - HEAVY & MEDIUM DO SECTION 2 - SCREW ANCHORS SECTION 3 - LIGHTWEIGHT ANCH

HORS	50-91
	47-49
OUTY ANCHORS	21-46
CES	19-20
	16-18
	14-15
SM	9-13
	6-8
	5
3	4



ABOUT CONSTRUCTION ANCHORS

Construction Anchors is a privately owned company specialising in a wide range of innovative fixing solutions along with bespoke products tailored to the customers' needs. We aim to become a worldwide partner to construction professionals, dedicated to the highest quality of both products and service. On the cutting edge of the fixing and fastening technology, CA is committed to research and development and focuses on continuous innovation to ensure competitive longevity.

CONSTRUCTION ANCHORS TECHNICAL INFORMATION

With this technical guide CA are providing the current available technical information relating to our range of high performance anchors.

There are many influencing factors that can determine the correct choice of a suitable fixing or anchor that will perform to the expectations of the designer and client alike.

The scope of this guide is to point the user in the right direction so that they can choose, one or possibly two options of anchor for their particular application knowing that they have, in doing so, avoided any future possible problems that could occur during the selection process (see product selection), such as incorrect finish of anchor, insufficient fixing thickness and so forth.

CA are confident that as with all engineered solutions, by choosing one of our products you have made the correct decision and at the same time have the reassurance that your choice can be backed up by suitable technical information where possible. If required site testing is also available to further ensure the quality of our products and services.

Nevertheless, we always recommend, that should for what ever reason, there be any doubt about the type and installation that you are considering, to each time engage the services of a suitable qualified engineer.

PRODUCT SELECTION

The process of making the correct choice has many influencing factors that need to be considered when thinking about what will be the correct CA product to carry out a successful installation.

In order to assist and guide either the novice or, individual who is familiar with designing and installing anchors and fixings, we have provided the following guidelines to assist and hopefully enable you to have an improved understanding of what these influencing factors are and how they effect your decision for the correct CA product.

Base Material (substrate)

The material into which the fixing will be made.

Fixing function or mechansim (anchor type)

The way in which a fixing operates during installation and retains its position in base material after installation has been carried out.

Installation

Selecting the correct anchor by the way in which it is installed and associated practical considerations.

Corrosion and finish

Specifying the type of finish of the fixing.

Loads

Understanding the forces that act upon the fixing and how that influences the performance of the product in the base material.





Fire

How to consider the effects of fire regarding fixings and the current levels of information available.

Site testing

Where no test information is available, or a certain products performance needs to be verified, then a site test can be conducted to confirm the products performance.

Terminology/Nomenclature

What are the terms used to describe the anchor characteristics or other associate information.

Drilling

To ensure that the fixing works and performs as required, the correct drilling of the hole is also necessary. This means that a suitable drill and machine (power tool) are used for the installation.



BASE MATERIAL (SUBSTRATE)

Undoubtedly, the most incorrectly referred when making a choice to is the description of the base material or substrate. The exception tends to be concrete, although there are also many types of concrete, self compacting or PFA and no-fines concretes.

To make this easier to understand we have put the base materials into groups as they directly effect the selection of correct fixings.

Generally, bricks have a reasonable compressive

strength which means that anchoring is not a problem. However, when hollow or having perforations this can greater effect the performance. As a general rule the plastic fixings that expand are most effective or a resin bonded type of anchor with no expansion (see fixing function or mechanism) are the most effective.

Where the brick is hollow, a special form locking or resin anchor with sleeve can be considered.



Masonry

Brick, Block or Stone; these can also be subdivided into being either hollow or solid and all have various compressive strengths.

Brickwork

In the UK alone there are over five thousand types of brick and they in tern can be either solid or hollow. It may also be difficult, in particular with older buildings to determine on the inside walls for example what kind of material either brick or block has been used, as the walls are normally plastered. In this case a small pilot hole can be drilled to establish the composition of the wall.

Blockwork

Developed originally to (depending upon the size) act as a larger unit than a brick, usually equivalent to four bricks and used for internal walls only. The original material was, and is still in use is the waste material (cokes/ash) from a fossil fired power stations. Sometimes known as a "Breeze Block", a low strength, weal structured material.

Since then the early days of block production methods have greatly improved and therefore the quality of the blocks themselves.

Today there are concrete solid and hollow blocks, hollow blocks (perforated terra cotta type), aircrete a cellular light weight block with high insulation qualities, but virtually impossible to use a convention expansion steel or plastic anchor.

Stone

As with bricks, there are many types of stone used in construction through out the ages not only from the UK but, also many imported types of stone.

Often found in UK buildings are sand and lime stones which vary in strength and density. The so called "softer stones" can be drilled with conventional masonry drill bits and appropriate power tools.

Here it may be possible to use some of the expansion (see function) type fixings either in steel or plastic. Resin may also be a suitable method in which to fix into stone.

However, with much denser stones such as granite, diamond drilling is the only effective way to make a hole, and also limits the type of fixing that can be used. More often than not the most effective fixing is the one that does not expand. In this case, again a resin anchor can provide the required solution.

Mortar

Common to all of the above materials is the mortar used between the joints of the above materials. Generally, composing of sand and cement and often with lime as an additional material. Again, these can vary in strength and composition. However, fixing into a mortar composition. However, fixing into a mortar joint should be avoided where possible. Nevertheless, sometimes this cannot be the case.

Panel Materials

As with bricks there is a large number of panel materials to name but a few, plasterboard, steel sheet, timber panel material (plywood, chipboard) composite panels that include high pressure laminate (HPL), cement and resin based materials. By contrast to brick, which tends to be used these days for external cladding, panel materials are used for both interior and exterior decoration of effective ways to construct internal walls and or partitions. By far the most frequently encountered panel material in construction is plasterboard. This is used as part of a ceiling or wall construction for industrial and domestic buildings.

For not only plasterboard but, all of the above materials, a special fixing or fastener that has been manufactured for that specific type of panel must be used.



Concrete

By far the most common substrate used for structural connections and steel anchors. Manufactured to specific compressive strengths that can typically range from 15N/mm2 to 55N/ mm2. Although, for tall structures the strength may reach as much as 100N/ mm2.

The main materials used to make concrete basically are aggregate, cement and water. Modern, material processing equipment has meant that other ingredients are used that may make the concrete lighter without loss of strength such as pulverized fuel ash, PFA as an alternative to aggregate.

As concrete has very high strength in compression but is of low tensile strength, reinforcement bars are used to improve the concretes tensile capacity.

The inclusion of reinforcement brings problems of its own for the anchor installer. As often due to the amount of reinforcement there may be problems drilling a hole to the required depth and thus effect the installation of the anchor. The table below indicates the various concrete strengths found in not only the UK but additional countries.



1

COUNTRY	TEST CONTAINER CUBE CYLINDER	DIMENSION (CM)	STRENGTH DESIGNATION	UNIT OF STRENGTH	NATIONAL/ INTERNATIONAL STANDARD
AUSTRIA	•	20 x 20 x 20	B5/B80, B10/B120, B15/B160, B20/B225, B25/B300, B30/350, B40/B500, B50/B600, B60/B700	N/mm²/kp/cm²	ON B 4200
CHINA	•	15 x 15 x 15	C15, C20, C25, C30, C35, C40, C45, C55, C60	N/mm ²	GBJ 10-89
DENMARK	•	15 x 30	5, 10, 15, 25, 35, 45, 55	N/mm ²	DS 411
FRANCE	•	16 x 32	C20/25, C25/30, C30/37, C35/45, C40/50, C45/55, C50/60	N/mm ²	
GERMANY	•	20 x 20 x 20	B15, B25, B35, B45, B55	N/mm ²	DIN 1045
UK	•	15 x 15 x 15	C25/10	N/mm ²	BS 1881: Part 116
ITALY	•	20 x 20 x 20 15 x 15 x 15 16 x 16 x 16	C12/15, C20/25, C30/37, C40/50, C50/60	N/mm ²	ENV 206
JAPAN	•	10 x 20	> 15	N/mm ²	JIS A 1108
KOREA	•	10 x 20	C180, C210, C240, C270, C300	kg/cm ²	KS F 2405
HOLLAND	•	15 x 15 x 15	B15, B25, B35, B45, B55, B65		NEN 6720
SPAIN		15 x 30	Non-reinforced HM-20, HM-25, HM-30 concrete HM-35, HM-40, HM-45, HM-50 Reinforced concrete HA-25, HA-30, HA-35, HA-40, HA-45, HA-50 Pre-Stressed HP-25, HP-30, HP-45 concrete HP-40, HP-45, HP-50	N/mm ²	EHE
SWEDEN	•	15 x 15 x 15	K8, K12, K16, K20, K25, K30, K40, K45, K50, K55, K60, K70, K80	N/mm ²	BBK 79
SWITZERLAND	•	20 x 20 x 20	B25/15, B30/20, B35/25, B40/30, B45/35, B50/40		SIA 162
USA	•	15 x 30	2000, 3000, 4000, 6000	PSI	ACI 318

ANCHOR FUNCTIONING MECHANISM

Las and the

In today's markets there are many names and designations that have been given to fixing's and anchors in relation to how they work during installation and what keeps them in place.

However, there are four main operating mechanisms under which 99.5% of all anchors and fixings work. These are:

EXPANSION , TORQUE CONTROLLED

FORM-LOCKING (MECHANICAL INTERLOCK)

BONDING

EXPANSION - DEFORMATION CONTROLLED

8





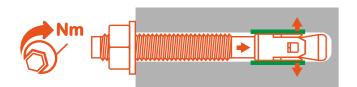








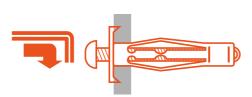
EXPANSION, TORQUE CONTROLLED



In this case a metal sleeve, (steel anchors) through which either a threaded rod or bolt pass, which at the end of the thread has a cone. The bolt will have a nut and washer which when tightened, draws the cone into the sleeve, pressing against the side of the drill hole and in doing so produces friction that holds the fixing in place.

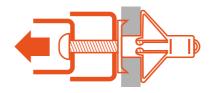
A typical example of the above is the CFS Sleeve anchor or the CFS Heavy Duty anchor.

FORM-LOCKING (MECHANICAL INTERLOCK)



There are a number of ways in which a fixing may form lock and this tends to be either a metal or steel fixing which changes its shape (form) during installation and locks against the substrate into which it is being used. Unlike an expansion type of anchor there is no 'expansion' pressure which may lead to additional problems.

A typical example would be the CFS Hollow Wall Anchor which when being installed into a panel material such as plasterboard, collapses from a cylindrical shape into what often appears to be like an open umbrella, against the back of the plasterboard

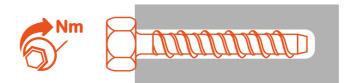


Although , in principal not a mechanical functioning fixing, the resin bonded anchor when installed into a hollow wall with a sleeve, can also be classified as being form-locking, in that the sleeve has a liquid resin injected into the sleeve, filling the sleeve and the immediate area outside. A threaded rod is pushed into the soft resin and left to hardened. Once hard the resin will have filled the voids

(formed) around the sleeve and retain the threaded rod embedded into the resin thus creating a formlocking anchorage in the hollow material.

An example of this would be the CA Chemical Injection Mortar in conjunction with the CA plastic sleeve insert.

BONDING



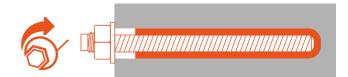
Also known as a stress-free type of anchor. Which means that there is no expansion force when the anchor is installed and are used for high load capacity. Although, the description of the above is an example, is for form-locking, the same material can be used to provide an installation where by a resin material bonds, in most cases a threaded rod (rebar where possible) to the substrate.

Resin fixing is mainly the result of a chemical reaction taking place when a resin and hardener (activator) are mixed together and set to harden with final strengths often in excess of the material into which they are installed. The speed of the setting process is dependent on the ambient temperatures.

Cement is also a bonding material but not used in the main for these types of anchors. The common materials are Epoxy, Epoxy Acrylate and Polyester.



DISPENSING



A number of dispensing options are available:

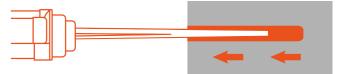
• CA Spin-In glass capsule with resin, fine aggregate (quartz sand) and a hardener.



CA Hammer-in glass capsule with resin and hardener



• CA Chemical Injection Mortar a two compartmental plastic cartridge, one containing hardener and the other resin with fine aggregate fillers.



In addition there are also hand mixed materials which are usually supplied in tins or bags and mixed together by hand . They tend to be used for non-fixing applications were the anchor is less than 30mm \emptyset .

The fixing works by bonding a threaded rod with a suitable resin to the substrate. For hollow materials a suitable CA sleeve must be used to contain the resin material, see above.



GLASS CAPSULES



A hole is drilled into the substrate and cleaned to remove as much of the dust as possible. This is to prevent the resin from bonding to the residual drill dust rather than the hole. To do this correctly a brush and dust removal pump are required. Brushing and blowing the dust from the hole.

Once cleaned the resin (glass capsule, spin-in) is placed in the hole. The threaded rod is then driven into the capsule breaking it and mixing the resin and hardener together as it progresses down the hole.

The resin is then left to harden.

Although, a capsule, the Hammer-in as described, literally hammered in place. Once again the hole must be cleaned as previously described. The capsule is placed in the hole and the rod, usually re-bar, and is driven into the capsule mixing the two materials together bonding to the drill hole. This is then left to harden.

The two above glass capsule types are specific to a corresponding drill hole \emptyset and depth.

CARTRIDGE SYSTEMS



Finally, with a mixing nozzle (included with each cartridge) attached to the end of the cartridge, it is then placed into the appropriate application gun. This will depend upon the type of the cartridge used. In some cases a conventional "sealant" application gun can be used.

The trigger is then pulled, which forces the hardener and resin out of the cartridge and into the nozzle.

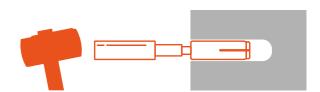
Generally, the colour of the mixed resin is darker than either of the two components before being mixed together and indicates that the material is suitable to use. The nozzle is placed in the bottom of the drill hole. Resin is dispensed by pulling on the trigger and removing the nozzle from the hole as doing so. The hole is then completely full with the material. Either threaded rod or re-bar is then pushed into the soft resin and left to harden, bonding to the side of the drill hole.



12



DEFORMATION CONTROLLED



Eccentrically an expansion anchor, the main difference being that the expansion is done by driving a cone (using supplied setting tool) down through the sleeve to set the anchor. This is unlike the conventional expansion anchors that rely upon a tightening torque to make the fixing function.



TYPE OF INSTALLATION



During the selection process and by far the most overlooked aspect of making the correct choice of CA fixing products, is the type of installation used and how that can have a major effect on the overall cost of the installation if done incorrectly.

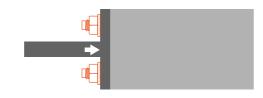


FLUSH FIXING

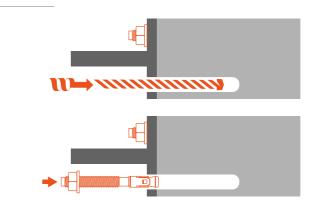


A flush fixing is made by positioning the attachment in the place where you wish it to remain. The holes for the fixing are marked and the attachment is then moved so that the holes may be drilled to suit the size of fixing selected. Please note that often the hole diameter for the fixing is larger than the hole in the attachment.

The fixing is then placed into the hole with the attachment being then repositioned and either the screw or bolt being put through the attachment and tightened home.



STAND-OFF FIXING



Flush fixings tends to work fine when a single fixing is being made and the item is not too heavy or large, that moving it may cause problems. However, a high degree of accuracy is required and unless done correctly may cause problems with multiple fixings.

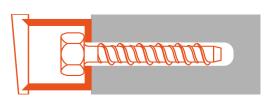
In most cases by using a suitable CFS through fixing, the problem of alignment are overcome and the requirement to move the attachment is done away with. This greatly improves productivity and therefore reduces the time and cost for an installation.

The attachment is put in its permanent position. The holes for fixings are then drilled "through" the attachment, after which the fixing is placed into the hole and tightened, with out the need to remove and re-position the attachment.

Naturally, care must be taken to ensure that the holes in the attachment are nether too big or too small before starting the installation.



THROUGH FIXING



The two previously mentioned methods of installation deal with the attachment being held firmly against the substrate. There are however a considerable number of applications were

the attachment needs to be held away from the surface, for perhaps alignment or structural reasons. The anchor or fixing will be made in such a way that the position of the hole is marked on the substrate followed by the drilling of the hole for what may be a CFS expansion or resin anchor. The anchor is installed in such a way that an attachment may be made to it after the installation is completed.

A typical example would be the brackets for a cladding system, or a timber lining for a plasterboard wall.



CORROSION & FINISH

Often not given consideration required during the selection process and sometimes even ignored, but can have, and it must be said not immediate consequences but future possible serious problems. So to make the correct choice of material from which your CFS anchor produced will overcome any future areas of concern.

ENVIROMENT

If we consider that anchors in the main will be used either, internally or, externally, this way the process of understanding the environment and its effects on the installed fixing can be better understood and therefore the material and or plating from which the final fixing can be produced determined to deal with the local conditions.

External applications will more often than not require the use of perhaps stainless steel. If you are unsure about levels of pollution in certain areas, date concerning relating to this, can be obtained from organizations such as the World Bank.

The table below issued in 1998 records pollution levels in various locations around the world and indicates the extent of pollution in the respective city.

Again the locations where a product will be used can be further defined as Rural, Urban and Industrial.

СІТҮ	SUSPENDED PARTICULATE UG/M3	SULFAR DIOXIDE UG/M3
•	· · · · · · · · · · · · · · · · · · ·	
BEIJING	377	90
CALCUTTA	375	49
HELSINKI	40	4
LOS ANGELES	46	9
MOSCOW	100	109
NEW YORK	23	26
PARIS	14	14
RIO DE JANERIO	139	129
SYDNEY	54	28
токуо	49	18
TORONTO	36	17

STAND-OFF FIXING

Rural or suburban areas will normally have low population with light industry that does not produce high levels of corrosion. However, the prevailing winds may alter this and should be considered when making a specification.

Urban areas that include residential, commercial and light industry with low levels of traffic, producing some pollution. The levels of pollution can increase due to no pollution controls being present or local conditions being such that they create the environment for corrosion to take place.

INDUSTRIAL AREAS

Typical results of high levels of corrosion found in industrial area are sulphur and nitrogen oxide found in chemical and processing plants. Air bound soot from fuel or iron oxides are also typical of highly polluted atmospheres in areas were no controls are in place to combat the problem and therefore worsen the situation.

Further corrosion of architectural and structural metals including some stainless steels can be found in areas with little or no air pollution controls.



COSTAL AND DE-ICING SALT EXPOSURE

Combinations of humidity, high temperature, light rain fall, fog, together with de-icing salt deposits on some stainless steels will cause the material to absorb these deposits and due to the presence of moisture form a highly corrosive salt solution.

In these cases, where perhaps the materials are either splashed, or partially submerged for short periods of time in corrosive environments, the expert advice should be sort to determine the most suitable material.

COASTAL AND MARINE ENVIRONMENTS

For reasons of design and determining how far a coastal region is seen to be effected by the prevailing conditions, (salt water carried by air) can be considered as much as 16Km (10 miles) inland. In some cases where high winds are present, this may be even further.!

To provide suitable protection for applications that are either regularly splashed or completely submerged in sea water. The following materials, super duplex, super ferritic and super stainless steel with at least 6% molybdenum must be



FIRE

With modern building design, considerations of how suitable preventional measures may be taken early on in the design process to combat fires if, and when they take place, can and does have a major influence in selecting the correct materials that will prevent either the onslaught or stop completely the spread of fires.

It must however be said that at the moment there are no regulations that govern the design of either fixings and anchors in situations where fire may occur. A major influence in understanding the requirement is not just how does the product behave in its own right in a fire.? But, rather how does the attachment and the anchor or fixing perform together when tested in a fire.

In general all fire tests that have been conducted have been done mainly into concrete, whereas there are a vast number of fixings that have been and will be installed into either masonry, stone and not forgetting panel materials such as plasterboard.

One of many solutions is to apply one of a numerous number of coatings that can be applied to the fixing or anchor, which at the same time is being applied to the attachment. The type and coating thickness will also effect the overall performance of the whole application and therefore should be considered in its own right. It may be possible that with the suitable protective coating that the application may last for as much as 30 times longer. As a guide the protective material must be applied to the area against which the attachment will sit, equivalent to that of 2 times the fixing embedment depth in the substrate. In addition, there are currently at the moment no common procedures for testing anchors and fixings in fire situations. Therefore, in most areas unless the application is repetitive to such an extent that a high number of the applications are the same, and unless a test from a commercial point of view is deemed to be economical. Fire tests on a whole have been carried out in isolation.

The real bench mark for fire is at 500 C where the steel yield strength is reduced by half and at slightly higher temperatures, the tread of the anchor will fail before the anchor actually fails. Bearing in mind that not only the steel is affected by the temperature, but also that of the concrete, both compressive and tensile strengths may again be reduced by as much as half. It should also be bourn in mind that in an application the applied load may be not only in tension but also shear or a combination of both forces. Therefore, once again the problem in a given fire situation is very difficult to establish without the need of a specific test for a specific situation.

By selecting a suitable stainless steel the overall performance compared to a carbon steel may be twice as high. In the past resin anchors have been considered to be unsuitable for fire rated applications. However, testing has shown that the performance is only slightly reduced. As already discussed the nut may well fail (temp. Causes thread striping) before the anchor.

In each case, either the local or national standards that relate to fired and prevention must be observed.

LOADS, FORCES & DESIGN INFLUENCES

It could be said that no one fixing or anchor application when considering the design could be the same.?

However, the forces acting on the fixing either short term or long term must be carefully considered and determined in accordance to current engineering practice, In general terms, these forces will either act in pure tension, shear or a combination of both.

At the same time the fixing may also be subjected to not only static loading but also dynamic and shock loading. Therefore, to understand the fixing performance requirements fully, the possible modes of failure must also be looked at, then the selection of the anchor can be successfully carried out.

It should also be said that although more than sufficient information is available for the performance of fixing into concrete (unreinforced), there are a considerable amount of installations carried out into other materials such as masonry. In this case and where no previous test reports or approvals are available, then the only option is to conduct either onsite-tests or in particular manufacturers factories.

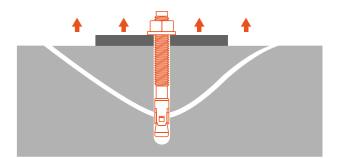




TENSILE FAILURE

When subjected to a tensile force (static) an anchor will fail in concrete either by the concrete itself failing or the fixing steel yielding and subsequent failure.

In the case of concrete failure, the tensile strength of the fixing is greater than that of the concretes tensile strength and will therefore fail.



The size of the concrete failure cone will in most cases be three times the anchors effective embedment depth hef in diameter and therefore also has an influence on not only the spacing between any adjacent fixing but also the edge distance ac.

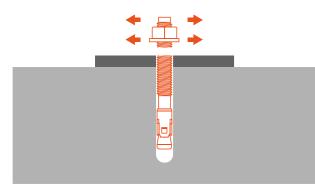
In the case of steel failure the engineer needs to consider the respective fixings steel properties and cross-sectional area of the steel As and then calculate the strength of the steel to determine if the fixing is suitable or not.

Having determined the mode of failure that could possibly occur for the fixing, then you can refer to the data for each CFS fixing to establish a suitable anchor for your application.



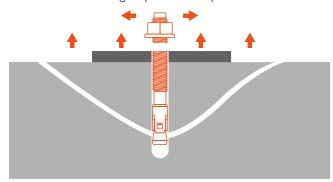
SHEAR VALUE

As with tension the shear value related to the fixing steel capacity and the fixings distance to the edge of the substrate. Where the anchor is of sufficient distance from the edge, so that no failure of the concrete will occur, then, in this case the fixings steel capacity must be calculated in the same way as for tension.

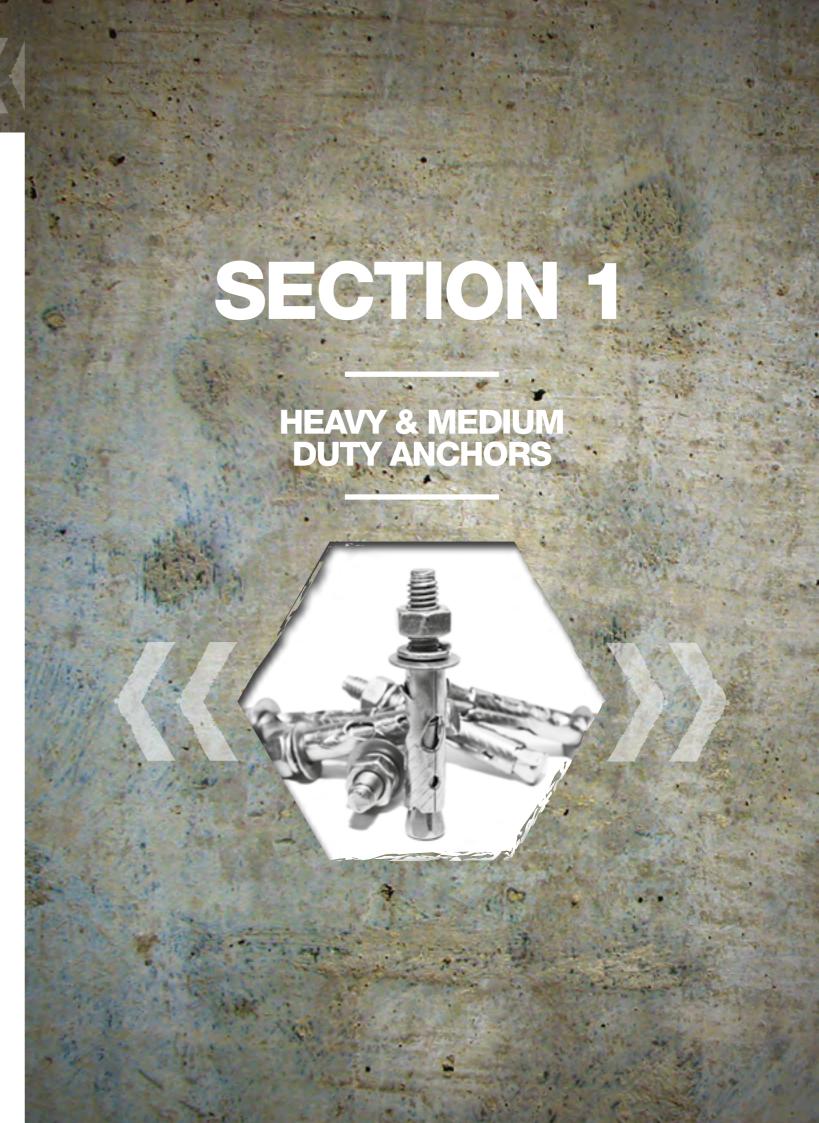


COMBINED TENSION AND SHEAR

Depending on the application there are times when both tension and shear are acting at the same time on the fixing. In this case both tension and shear must be calculated and which ever the greater will determine the fixing capacities requirements.









WEDGE ANCHOR

(WHITE ZINC PLATED) NON CRACKED CONCRETE ETA OPTION 7



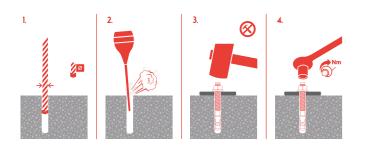
APPLICATIONS

- Barriers
- Railings
- Warehouse racking
- Structural beams and columns
- Warehouse racking
- Safety related installations

ANCHOR BAR MATERIAL

Carbon Steel white zinc plated (Body, Nut, Washer and Expansion Clip)

INSTALLATION DRAWINGS



ADVANTAGE

- Consistent performance in all types of concrete
- Drill size same as anchor size
- Easy and simple installation
- Through fixing

BASE MATERIAL



APPROVALS





PRODUCT	HOLE/DRILL DIAMETER	ANCHOR LENGTH	MIN NOM EMBEDMENT DEPTH
NEPENEIKUE	Ø		
WE0100300010	6	45	40 / 30*
WE0100300020	6	55	40 / 30*
WE0100300030	6	85	40/30*
WE0100300040	8	50	50 / 35*
WE0100300050	8	55	50 / 35*
WE0100300060	8	65	50 / 35*
WE0100300070	8	80	50 / 35*
WE0100300080	8	95	50 / 35*
WE0100300090	8	100	50 / 35*
WE0100300100	8	115	50 / 35*
WE0100300110	8	130	50 / 35*
WE0100300120	10	65	55 / 45*
WE0100300130	10	75	55 / 45*
WE0100300140	10	80	55 / 45*
WE0100300150	10	90	55 / 45*
WE0100300160	10	100	55 / 45*
WE0100300170	10	105	55 / 45*
WE0100300180	10	120	55 / 45*
WE0100300190	10	150	55 / 45*
WE0100300200	12	80	70 / 50*
WE0100300210	12	90	70 / 50*
WE0100300220	12	100	70 / 50*
WE0100300230	12	110	70 / 50*
WE0100300240	12	120	70 / 50*
WE0100300250	12	140	70 / 50*
WE0100300260	12	160	70 / 50*
WE0100300270	12	180	70 / 50*
WE0100300280	16	90	85 / 65*
WE0100300290	16	105	85 / 65*
WE0100300300	16	125	85 / 65*
WE0100300310	16	140	85 / 65*
WE0100300320	16	150	85 / 65*
WE0100300330	16	175	85 / 65*
WE0100300340	16	220	85 / 65*
WE0100300350	20	130	100 / 80*
WE0100300360	20	160	100 / 80*
WE0100300370	20	215	100 / 80*
WE0100300380	24	180	130 / 100*
WE0100300390	24	260	130 / 100*

* values for reduced anchor embedment

MIN HOLE DEPTH	INSTA TORQUE FT.LBS (NM)	BOX PACKING	CARTON PACKING
	6 ft.lbs		
55	5	100	1000
55	5	100	1000
55	5	100	1000
65	27	100	500
65	27	100	500
65	27	100	500
65	27	50	500
65	27	50	500
65	27	50	500
65	27	50	500
65	27	50	250
	54	50	250
70			
70	54	50	250
70	54	50	250
70	54	50	250
70	54	50	250
70	54	50	250
70	54	20	200
70	54	20	200
90	108	20	200
90	108	20	200
90	108	20	200
90	108	20	200
90	108	20	100
90	108	20	100
90	108	20	100
90	108	20	100
110	149	20	100
110	149	20	100
110	149	20	100
110	149	20	80
110	149	20	80
110	149	10	50
110	149	10	50
110	180	10	50
110	180	10	50
110	180	10	50
105	300	10	30
105	300	5	20



WEDGE - ANCHOR

(WHITE ZINC PLATED) CRACKED AND NON CRACKED CONCRETE ETA OPTION 1



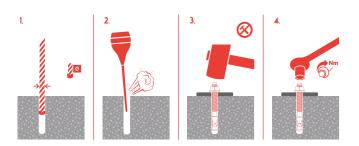
APPLICATIONS

- Tension applications Cable trays/Strut/Pipe supports
- Barriers
- Railings
- Warehouse racking
- Structural beams and columns
- Warehouse racking
- Safety related installations

ANCHOR BAR MATERIAL

Carbon Steel white zinc plated - Body, Nut and Washer Stainless Steel A4-316 Expansion Clip

INSTALLATION DRAWINGS



ADVANTAGE

- Consistent performance in all types of concrete
- Drill size same as anchor size
- Easy and simple installation
- Through fixing

BASE MATERIAL



APPROVALS







PRODUCT	HOLE/DRILL DIAMETER	ANCHOR LENGTH	MIN NOM EMBEDMENT DEPTH	
REFERENCE	Ø			
			50 (05)	
WE0100500010	8	50	50 / 35*	-
WE0100500020	8	60	50 / 35*	
WE0100500030	8	65	50 / 35*	-
WE0100500040	8	75	50 / 35*	
WE0100500050	8	85	50 / 35*	
WE0100500060	8	95	50 / 35*	_
WE0100500070	8	105	50 / 35*	
WE0100500080	8	130	50 / 35*	_
WE0100500090	8	155	50 / 35*	_
WE0100500100	8	205	50 / 35*	
WE0100500110	10	60	55 / 45*	
WE0100500120	10	85	55 / 45*	
WE0100500130	10	90	55 / 45*	_
WE0100500140	10	100	55 / 45*	
WE0100500150	10	110	55 / 45*	
WE0100500160	10	120	55 / 45*	
WE0100500170	10	130	55 / 45*	
WE0100500180	10	160	55 / 45*	
WE0100500190	10	180	55 / 45*	
WE0100500200	10	220	55 / 45*	
WE0100500210	12	80	70 / 50*	
WE0100500220	12	90	70 / 50*	
WE0100500230	12	100	70 / 50*	
WE0100500240	12	105	70 / 50*	
WE0100500250	12	115	70 / 50*	
WE0100500260	12	120	70 / 50*	
WE0100500270	12	135	70 / 50*	
WE0100500280	12	165	70 / 50*	
WE0100500290	12	175	70 / 50*	
WE0100500300	12	185	70 / 50*	
WE0100500310	12	220	70 / 50*	
WE0100500320	16	90	85 / 65*	
WE0100500330	16	100	85 / 65*	
WE0100500340	16	115	85 / 65*	
WE0100500350	16	125	85 / 65*	
WE0100500360	16	135	85 / 65*	
WE0100500370	16	150	85 / 65*	
WE0100500380	16	160	85 / 65*	
WE0100500390	16	210	85 / 65*	
* values for reduced ancho				

MIN HOLE DEPTH	INSTA TORQUE FT.LBS (NM)	BOX PACKING	CARTON PACKING
	6 ft.lbs		
-		400	1000
65	27	100	1000
65	27	100	1000
65	27	100	1000
65	27	100	500
65	27	100	500
65	27	50	500
65	27	50	500
65	27	50	500
65	27	50	500
65	27	50	250
70	54	50	250
70	54	50	250
70	54	50	250
70	54	20	200
70	54	20	200
70	54	20	200
70	54	20	200
70	54	20	100
70	54	20	100
70	54	20	100
90	108	20	100
90	108	20	100
90	108	20	80
90	108	20	80
90	108	20	100
90	108	20	100
90	108	20	80
90	108	10	50
90	108	10	50
90	108	10	50
90	149	10	50
110	149	10	50
110	149	10	50
110	149	10	40
110	149	10	40
110	149	10	30
110	149	5	20
110	149	5	20
110	149	5	20



products that meet **your** approval

WEDGE ANCHOR

HOT DIPPED GALVANISED 40 - 45 MICRONS NON CRACKED CONCRETE ETA OPTION 7 - PENDING



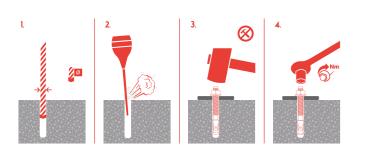
APPLICATIONS

- Tension applications Cable trays/Strut/Pipe supports
- Barriers
- Railings
- Warehouse racking
- Structural beams and columns
- Warehouse racking
- Safety related installations

ANCHOR BAR MATERIAL

Hot Dipped Galvanised - Body, Nut and Washer Stainless Steel A4-316 Expansion Clip

INSTALLATION DRAWINGS



ADVANTAGE

- Consistent performance in all types of concrete
- Drill size same as anchor size
- Easy and simple installation
- Through fixing

BASE MATERIAL



APPROVALS





PRODUCT REFERENCE	HOLE/DRILL DIAMETER	ANCHOR LENGTH	MIN NOM EMBEDMENT DEPTH	
	$\simeq 0$			
WE0100700010	6	45	40 / 30*	
WE0100700010	6	55	40 / 30*	
WE0100700020	6	85	40 / 30*	
WE0100700040	8	50	407 30 50 / 35*	
WE0100700050	8	65	50 / 35*	
WE0100700060	8	80	50 / 35*	
WE0100700070	8	90	50 / 35*	
WE0100700080	8	100	50 / 35*	
WE0100700090	8	115	50 / 35*	
WE0100700100	8	130	50 / 35*	
WE0100700110	10	65	55 / 45*	
WE0100700120	10	75	55 / 45*	
WE0100700130	10	90	55 / 45*	
WE0100700140	10	105	55 / 45*	
WE0100700150	10	120	55 / 45*	
WE0100700160	10	140	55 / 45*	
WE0100700170	12	80	70 / 50*	
WE0100700180	12	100	70 / 50*	
WE0100700190	12	120	70 / 50*	
WE0100700200	12	140	70 / 50*	
WE0100700210	12	180	70 / 50*	
WE0100700220	12	200	70 / 50*	
WE0100700230	12	220	70 / 50*	
WE0100700240	12	240	70 / 50*	
WE0100700250	16	105	85 / 65*	
WE0100700260	16	125	85 / 65*	
WE0100700270	16	150	85 / 65*	
WE0100700280	16	175	85 / 65*	
WE0100700290	16	200	85 / 65*	
WE0100700300	16	220	85 / 65*	
WE0100700310	16	240	85 / 65*	
WE0100700320	20	130	100 / 80*	
WE0100700330	20	160	100 / 80*	
WE0100700340	20	220	100 / 80*	
WE0100700350	20	240	100 / 80*	
WE0100700360	24	180	130 / 100*	
WE0100700370	24	260	130 / 100*	

* values for reduced anchor embedment

MIN HOLE DEPTH	INSTA TORQUE FT.LBS (NM)	BOX PACKING	CARTON PACKING
	ft.lbs		
55	5	100	1000
55	5	100	1000
55	5	100	1000
65	27	100	500
65	27	100	500
65	27	50	500
65	27	50	500
65	27	50	500
65	27	50	500
65	27	50	250
70	54	50	250
70	54	50	250
70	54	50	250
70	54	50	250
70	54	20	200
70	54	20	100
90	108	20	200
90	108	20	200
90	108	20	100
90	108	20	100
90	108	20	100
90	108	20	100
90	108	20	80
90	108	20	80
110	149	20	100
110	149	20	100
110	149	20	80
110	149	10	50
110	149	10	50
110	149	10	50
110	149	10	50
110	180	10	50
110	180	10	50
110	180	10	40
110	180	10	40
105	300	10	30
105	300	5	20



products that meet **your** approval

WEDGE ANCHOR

(STAINLESS STEEL - A2-304 AND A4-316) NON CRACKED CONCRETE ETA OPTION 7 - PENDING (A4-316)



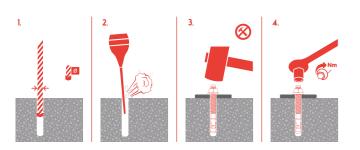
APPLICATIONS

- Tension applications Cable trays/Strut/Pipe supports
- Barriers
- Railings
- Structural beams and columns
- Warehouse racking
- Safety related installations

ANCHOR BAR MATERIAL

Stainless Steel A2-304 Grade Stainless Steel A4-316 Grade

INSTALLATION DRAWINGS



ADVANTAGE

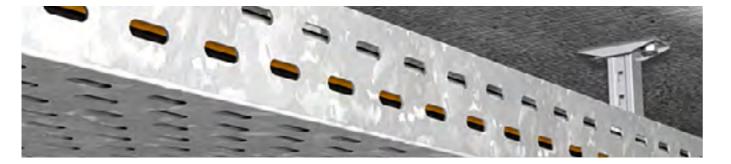
- Consistent performance in all types of concrete
- Drill size same as anchor size
- Easy and simple installation
- Through fixing
- Corrosion resistant

BASE MATERIAL



APPROVALS





PRODUCT REFERENCE	PRODUCT REFERENCE	HOLE/DRILL DIAMETER	ANCHOR LENGTH	MIN NOM EMBEDMENT DEPTH	MIN HOLE DEPTH	INSTA TORQUE FT.LBS (NM)	BOX PACKING	CARTON PACKING
A2-404	A4-316	$\boxtimes \emptyset$				ft.lbs		
WE0100900010	WE0100950010	6	45	40 / 30*	55	5	100	1000
WE0100900020	WE0100950020	6	55	40 / 30*	55	5	100	1000
WE0100900030	WE0100950030	6	85	40 / 30*	55	5	100	1000
WE0100900040	WE0100950040	8	50	50 / 35*	65	27	100	500
WE0100900050	WE0100950050	8	65	50 / 35*	65	27	100	500
WE0100900060	WE0100950060	8	80	50 / 35*	65	27	50	500
WE0100900070	WE0100950070	8	90	50 / 35*	65	27	50	500
WE0100900080	WE0100950080	8	100	50 / 35*	65	27	50	500
WE0100900090	WE0100950090	8	115	50 / 35*	65	27	50	500
WE0100900100	WE0100950100	8	130	50 / 35*	65	27	50	250
WE0100900110	WE0100950110	10	65	55 / 45*	70	54	50	250
WE0100900120	WE0100950120	10	75	55 / 45*	70	54	50	250
WE0100900130	WE0100950130	10	90	55 / 45*	70	54	50	250
WE0100900140	WE0100950140	10	105	55 / 45*	70	54	50	250
WE0100900150	WE0100950150	10	120	55 / 45*	70	54	20	200
WE0100900160	WE0100950160	10	140	55 / 45*	70	54	20	100
WE0100900170	WE0100950170	12	80	70 / 50*	90	108	20	200
WE0100900180	WE0100950180	12	100	70 / 50*	90	108	20	200
WE0100900190	WE0100950190	12	120	70 / 50*	90	108	20	100
WE0100900200	WE0100950200	12	140	70 / 50*	90	108	20	100
WE0100900210	WE0100950210	12	180	70 / 50*	90	108	20	100
WE0100900220	WE0100950220	12	200	70 / 50*	90	108	20	100
WE0100900230	WE0100950230	12	220	70 / 50*	90	108	20	80
WE0100900240	WE0100950240	12	240	70 / 50*	90	108	20	80
WE0100900250	WE0100950250	16	105	85 / 65*	110	149	20	100
WE0100900260	WE0100950260	16	125	85 / 65*	110	149	20	100
WE0100900270	WE0100950270	16	150	85 / 65*	110	149	20	80
WE0100900280	WE0100950280	16	175	85 / 65*	110	149	10	50
WE0100900290	WE0100950290	16	200	85 / 65*	110	149	10	50
WE0100900300	WE0100950300	16	220	85 / 65*	110	149	10	50
WE0100900310	WE0100950310	16	240	85 / 65*	110	149	10	50
WE0100900320	WE0100950320	20	130	100 / 80*	110	180	10	50
WE0100900330	WE0100950330	20	160	100 / 80*	110	180	10	50
WE0100900340	WE0100950340	20	220	100 / 80*	110	180	10	40
WE0100900350	WE0100950350	20	240	100 / 80*	110	180	10	40
WE0100900360	WE0100950360	24	180	130 / 100*	105	300	10	30
WE0100900370	WE0100950370	24	260	130 / 100*	105	300	5	20

* values for reduced anchor embedment

construction anchors

SLEEVE ANCHORS, HEX NUT, HEX BOLT, HOOK AND EYE (WHITE ZINC PLATED)



APPLICATIONS

• Lightweight structures

- Electrical and Mechanical
- Shelving and steel sections

ADVANTAGE

• Variety of Head types

BASE MATERIAL

- Fixture clamp down feature
- All steel component design
- Pre-assembled anchor for quick installation

ANCHOR BAR MATERIAL

Carbon Steel - white zinc plating

INSTALLATION DRAWINGS

 \otimes

۶ø

STANDARD BRICK GROUTED HOLLOW

HEAD TYPES



PRODUCT	HOLE/DRILL DIAMETER	ANCHOR LENGTH	MAX.FIXTURE THICKNESS	MIN HOLE DEPTH	BOX PACKING	CARTON PACKING
REFERENCE	Z)Ø					
IEX NUT TYPE	•	•	•	•		
SL0100100010	6	45	5	35	100	1000
SL0100100020	6	55	15	35	100	1000
SL0100100030	6	85	45	35	100	1000
SL0100100040	8	50	5	40	100	500
SL0100100050	8	65	20	40	100	500
SL0100100060	8	80	35	40	50	500
SL0100100070	8	90	45	40	50	500
SL0100100080	8	100	55	40	50	500
SL0100100090	8	115	70	40	50	500
SL0100100100	8	130	85	40	50	250
SL0100100110	10	65	8	50	50	250
SL0100100120	10	75	18	50	50	250
SL0100100130	10	90	33	50	50	250
SL0100100140	10	105	50	50	50	250
SL0100100150	10	120	63	50	20	200
SL0100100160	10	140	80	50	20	100
SL0100100170	12	80	12	65	20	200
SL0100100180	12	100	25	65	20	200
SL0100100190	12	120	45	65	20	100
SL0100100200	12	140	65	65	20	100
SL0100100210	12	180	105	65	20	100
SL0100100220	12	200	125	65	20	100
SL0100100230	12	220	145	65	20	80
SL0100100240	12	240	165	65	20	80
SL0100100250	16	105	12	85	20	100
SL0100100260	16	125	30	85	20	100
SL0100100270	16	150	55	85	20	80
SL0100100280	16	175	80	85	10	50
SL0100100290	16	200	105	85	10	50
SL0100100300	16	220	125	85	10	50
SL0100100300	16	220	125	85	10	50
SL0100100320	20	130	20	100	10	50
SL0100100320	20	160	50	100	10	50
SL0100100340	20	220	110	100	10	40
SL0100100350	20	220	130	100	10	40
SL0100100350	20	180	40	105	10	30
SL0100100380	24	260	40	105	5	20





PRODUCT	HOLE/DRILL DIAMETER	ANCHOR LENGTH	MAX.FIXTURE THICKNESS	MIN HOLE DEPTH	BOX PACKING	CARTON PACKING
REFERENCE						
•	•	•	•	•	•	•
HEX BOLT TYPE					L=	1-3
SL0100200010	6	45	5	35	100	1000
SL0100200020	6	55	15	35	100	1000
SL0100200030	6	85	45	35	100	1000
SL0100200040	8	50	5	40	100	500
SL0100200050	8	65	20	40	100	500
SL0100200060	8	80	35	40	50	500
SL0100200070	8	90	45	40	50	500
SL0100200080	8	100	55	40	50	500
SL0100200090	8	115	70	40	50	500
SL0100200100	8	130	85	40	50	250
SL0100200110	10	65	8	50	50	250
SL0100200120	10	75	18	50	50	250
SL0100200130	10	90	33	50	50	250
SL0100200140	10	105	50	50	50	250
SL0100200150	10	120	63	50	20	200
SL0100200160	10	140	80	50	20	100
SL0100200170	12	80	12	65	20	200
SL0100200180	12	100	25	65	20	200
SL0100200190	12	120	45	65	20	100
SL0100200200	12	140	65	65	20	100
SL0100200210	12	180	105	65	20	100
SL0100200220	12	200	125	65	20	100
SL0100200220	12	200	145	65	20	80
SL0100200230	12	240	145	65	20	80
SL0100200240	12	105	12	85	20	100
SL0100200250	16	125	30	85	20	100
SL0100200200	16	150	55	85	20	80
SL0100200270		1				
	16	175	80	85	10	50
SL0100200290	16	200	105	85	10	50
SL0100200300	16	220	125	85	10	50
SL0100200310	16	240	145	85	10	50
SL0100200320	20	130	20	100	10	50
SL0100200330	20	160	50	100	10	50
SL0100200340	20	220	110	100	10	40
SL0100200350	20	240	130	100	10	40
SL0100200360	24	180	40	105	10	30

PRODUCT REFERENCE		ANCHOR LENGTH	HEAD TYPE		BOX PACKING	
•	•					0
HEX BOLT TYPE				Q		
SL0100600010	8	11	Hook	45	100	1000
SL0100600020	8	8	Eye	45	100	1000

SHIELD ANCHORS 3 SEGMENT (WHITE ZINC PLATED)

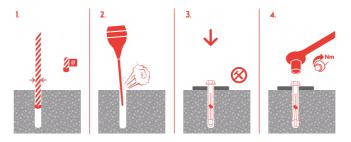
APPLICATIONS

- Installation of Ventilation
- Electrical & Telecommunication Installations
- Securing Scaffolding
- Installation of Threaded Bar

ANCHOR BAR MATERIAL

Carbon Steel - white zinc plating

INSTALLATION DRAWINGS









ADVANTAGE

- All purpose anchor for solid base materials
- Anchoring in Hollow Core Slabs
- Simple Installation
- No special tools required for installation

BASE MATERIAL





PRODUCT REFERENCE	THREAD DIAMETER (MM)	SHIELD LENGTH (MM)	HOLE DIAMETER (MM)	MIN HOLE DEPTH (MM)	MAX. FIXTURE THICKNESS (MM)	BOLT LENGTH (MM)	BOX PACKING	CARTON PACKING
		()	ZØ			Ē		
SHIELD ONLY	•	•			•			1
SH0100100010	6	45	12	50	-	-	100	800
SH0100100020	8	50	14	55	-	-	50	400
SH0100100030	10	60	16	65	-	-	50	400
SH0100100040	12	75	20	85	-	-	25	200
SH0100100050	16	115	25	125	-	-	10	80
LOOSEBOLT TYP	E							
SH0100200010	6	45	12	50	10	55	100	800
SH0100200020	6	45	12	50	25	70	100	800
SH0100200030	6	45	12	50	40	85	50	400
SH0100200040	8	50	14	55	10	65	50	400
SH0100200050	8	50	14	55	25	80	50	400
SH0100200060	8	50	14	55	40	95	50	200
SH0100200070	10	60	16	65	10	75	50	200
SH0100200080	10	60	16	65	25	90	50	200
SH0100200090	10	60	16	65	50	115	50	200
SH0100200100	10	60	16	65	75	140	50	200
SH0100200110	12	75	20	85	10	90	25	100
SH0100200120	12	75	20	85	25	105	25	100
SH0100200130	12	75	20	85	40	120	25	100
SH0100200140	12	75	20	85	60	140	25	100
SH0100200150	16	115	25	125	15	135	10	80
SH0100200160	16	115	25	125	30	150	10	80
SH0100200170	16	115	25	125	60	180	10	80

THREAD DIAMETER (MM) HOLE DIAMETER (MM) MIN DEP SHIELD LENGTH (MM) PRODUCT REFERENCE $\boxtimes \emptyset$

PROJECTING STUD TYPE

SH0100300010	6	45	12	
SH0100300020	6	45	12	
SH0100300030	6	45	12	
SH0100300040	8	50	14	
SH0100300050	8	50	14	
SH0100300060	8	50	14	
SH0100300070	10	60	16	
SH0100300080	10	60	16	
SH0100300090	10	60	16	
SH0100300100	12	75	20	
SH0100300110	12	75	20	
SH0100300120	12	75	20	
SH0100300130	16	115	25	
SH0100300140	16	115	25	
SH0100300150	16	115	25	

EYEBOLT TYPE

SH0100400010	6	45	12	
SH0100400020	8	50	14	
SH0100400030	10	60	16	
SH0100400040	12	75	20	

HOOKBOLT TYPE

SH0100400010	6	45	12	
SH0100400020	8	50	14	
SH0100400030	10	60	16	
SH0100400040	12	75	20	

IN HOLE PTH (MM)	MAX. FIXTURE THICKNESS (MM)	BOLT LENGTH (MM)	BOX PACKING	CARTON PACKING
		Ē		
	T	T		T
50	10	65	100	800
50	25	80	100	800
50	60	115	50	400
55	10	75	50	400
55	25	90	50	400
55	60	125	50	200
65	15	90	50	200
65	30	105	50	200
65	60	135	25	200
85	15	110	25	100
85	30	125	25	100
85	75	170	10	80
125	15	150	10	80
125	35	170	10	80
125	75	210	10	80
			O1	
50	-	-	50	400
55	-	-	50	400
65	-	-	50	200
85	-	-	25	100
			C	Here
50	-	-	50	400
55	-	-	50	400
65	-	-	50	200
85	-	-	25	100



CONCRETE BOLT FLANGE HEAD

(WHITE ZINC PLATED) OPTION 1 ETA - CRACKED AND NON-CRACKED CONCRETE

APPLICATIONS

- Stadium seating
- Racking and shelving
- Tempory attachments
- Fencng and railing ٠
- Mechanical installations
- Protective barriers

ANCHOR BAR MATERIAL:

Carbon Steel - white zinc plating Hot Dipped Galvanised

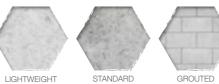
INSTALLATION DRAWINGS

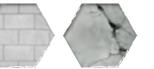


ADVANTAGE

- Quick installation time
- Stress applied across full length of anchor
- Can be installed close to edge applications
- Fully removable

BASE MATERIAL



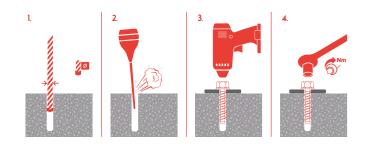


LIGHTWEIGHT

CRACKED



APPROVALS



$(\in$ ETA ETA-12/0552 - Option 1

٢

Fire Approval



PRODUCT REFERENCE BZP	PRODUCT REFERENCE MECH GALV		ANCHOR LENGTH (MM)	
				-
US0100100010	US0100200010	6	30	-
US0100100020	US0100200020	6	40	-
US0100100030	US0100200030	6	50	
US0100100040	US0100200040	6	75	-
US0100100050	US0100200050	6	100	-
US0100100060	US0100200060	7.5	30	-
US0100100070	US0100200070	7.5	50	-
US0100100080	US0100200080	7.5	75	-
US0100100090	US0100200090	7.5	80	-
US0100100100	US0100200100	7.5	100	-
US0100100110	US0100200110	7.5	120	-
US0100100120	US0100200120	7.5	130	
US0100100130	US0100200130	7.5	150	
US0100100140	US0100200140	10	50	-
US0100100150	US0100200150	10	60	
US0100100160	US0100200160	10	75	-
US0100100170	US0100200170	10	100	
US0100100180	US0100200180	10	120	-
US0100100190	US0100200190	10	130	-
US0100100200	US0100200200	10	150	-
US0100100210	US0100200210	12	60	-
US0100100220	US0100200220	12	75	-
US0100100230	US0100200230	12	85	-
US0100100240	US0100200240	12	100	-
US0100100250	US0100200250	12	120	-
US0100100260	US0100200260	12	130	
US0100100270	US0100200270	12	150	-
US0100100280	US0100200280	12	200	-
US0100100290	US0100200290	12	240	-
US0100100300	US0100200300	14	75	-
US0100100310	US0100200310	14	100 120	-
US0100100320	US0100200320	14		-
US0100100330	US0100200330	14	130	-
US0100100340	US0100200340	14	150	-
US0100100350	US0100200350	14	200	-
US0100100360	US0100200360	16	80	-
US0100100370	US0100200370	16	100	
US0100100380	US0100200380	16	120	
US0100100390	US0100200390	16	130	
US0100100400	US0100200400	16	150	
US0100100410	US0100200410	18	100	
US0100100420	US0100200420	18	150	
US0100100430	US0100200430	18	200	

construction anchors

HOLE IMETER (MM)	MIN. HOLE DEPTH (MM)	MAX. FIXTURE THICKNESS (MM)	HEX SW (MM)	BOX PACKING
$\supset \emptyset$				
-	•	V	T	V
5	-	-	8	150
5	-	-	8	100
5	45	15	8	100
5	65	20	8	100
5	65	45	10	100
6	-	-	10	100
6	45	15	10	100
6	65	20	10	100
6	65	25	10	100
6	65	45	10	100
6	65	65	10	100
6	65	75	10	100
6	65	95	10	100
8	55	5	13	100
8	60	10	13	100
8	75	10	13	100
8	75	35	13	100
8	75	55	13	50
8	75	65	13	50
8	75	85	13	50
10	60	10	15	50
10	70	15	15	50
10	85	10	15	50
10	85	25	15	50
10	85	45	15	25
10	85	55	15	25
10	85	75	15	25
10	85	125	15	20
10	85	165	15	20
12	70	15	16	50
12	105	5	16	50
12	105	25	16	20
12	105	35	16	20
12	105	55	16	20
12	105	105	16	20
14	80	10	18	20
14	80	30	18	25
14	125	5	18	20
14	125	15	18	20
14	125	35	18	10
16	80	30	21	15
16	125	35	21	15
16	125	85	21	10



CONCRETE BOLT ROD HANGER

(WHITE ZINC PLATED) OPTION 1 ETA - CRACKED AND NON-CRACKED CONCRETE



APPLICATIONS

- Suspended ceilings
- Cable trays
- Overhead ultilities
- Air conditioning
- Ventalation systems
- Lighting systems

ANCHOR BAR MATERIAL:

Carbon Steel - white zinc plating

ADVANTAGE

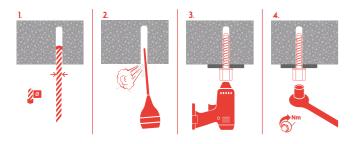
- Quick installation time
- Stress applied across full length of anchor
- Can be installed close to edge applications
- Fully removable

PRODUCT REFERENCE	HOLE DIAMETER (MM)	ANCHOR SCREW DIAMETER (MM)	ANCHOR SCREW LENGTH (MM)	THREAD SOCKET (MM)	MIN. HOLE DEPTH (MM)	HEX SW (MM)	BOX PACKING
v				•			
US0100500010	6	7.5	35	6	45	13	100
US0100500020	6	7.5	35	8	45	13	100
US0100500030	6	7.5	35	10	45	13	100
US0100500040	6	7.5	55	6	65	13	100
US0100500050	6	7.5	55	8	65	13	100
US0100500060	6	7.5	55	10	65	13	100

BASE MATERIAL



INSTALLATION DRAWINGS



APPROVALS













CONCRETE BOLT PAN/CSK HEAD

(WHITE ZINC PLATED & MECHANICAL GALVANISED) OPTION 1 ETA - CRACKED AND NON CRACKED CONCRETE

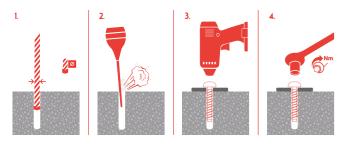
APPLICATIONS

- Stadium seating
- Racking and shelving
- Tempory attachments
- Fencng and railing ٠
- Mechanical installations
- Protective barriers

ANCHOR BAR MATERIAL

Carbon Steel - white zinc plating Mechanical Galvanised

INSTALLATION DRAWINGS

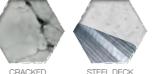


ADVANTAGE

- Quick installation time
- Stress applied across full length of anchor
- Can be installed close to edge applications
- Fully removable

BASE MATERIAL



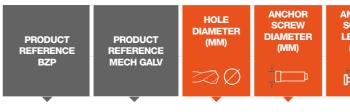


LIGHTWEIGHT

STEEL DECK

APPROVALS





USB ANCHOR BOLT PAN HEAD

US0100600010	US0100700010	6	7.5
US0100600020	US0100700020	6	7.5
US0100600030	US0100700030	6	7.5
US0100600040	US0100700040	6	7.5
US0100600050	US0100700050	6	7.5
US0100600060	US0100700060	6	7.5
US0100600070	US0100700070	6	7.5
US0100600080	US0100700080	6	7.5
US0100600090	US0100700090	6	7.5

USB ANCHOR BOLT CSK HEAD

US0100800010	US0100900010	5	6	
US0100800020	US0100900020	5	6	
US0100800030	US0100900030	5	6	
US0100800040	US0100900040	5	6	
US0100800050	US0100900050	6	7.5	
US0100800060	US0100900060	6	7.5	
US0100800070	US0100900070	6	7.5	
US0100800080	US0100900080	6	7.5	
US0100800090	US0100900090	6	7.5	
US0100800100	US0100900100	6	7.5	



anchors

NCHOR CREW ENGTH (MM)	MAX. FIXTURE THICKNESS (MM)	MIN. HOLE DEPTH (MM)	TORX KEY	
•	-			
			-	<u>ana ana ana ana ana ana ana ana ana ana</u>
30	-	-	T30	100
40	5	45	T30	100
50	15	45	T30	100
65	10	65	T30	100
75	20	65	T30	100
100	45	65	T30	100
120	65	65	T30	100
130	75	65	T30	100
150	95	65	T30	100
			and a deployed of the second	, and a construction of the second
30	-	-	T25	100
50	15	45	T25	100
75	20	65	T25	100
100	45	65	T25	100
30	-	-	T30	100
50	15	45	T30	100
75	20	65	T30	100

65

65

95 65

T30

T30 T30 100

100

100

100

130

150

45

75



DROP-IN ANCHORS

(WHITE ZINC PLATED AND STAINLESS STEEL) OPTION 7 ETA AND PART 6 - NON CRACKED CONCRETE



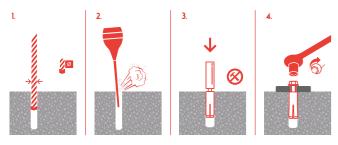
APPLICATIONS

- Cable trays
- Fire spinklers
- Suspended conduit
- Concrete Formwork •
- Suspended ceiling and lighting
- Telecomunication installations

ANCHOR BAR MATERIAL

Carbon Steel - white zinc plating Stainless Steel A2-304 Grade Stainless Steel A4-316 Grade

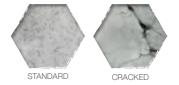
INSTALLATION DRAWINGS



ADVANTAGE

- Simple fastening removal
- Allows for short embedment
- Lipped version installs flush
- Non-Lipped version for deeper embedment

BASE MATERIAL



APPROVALS





PRODUCT	ANCHOR/ROD DIAMETER (MM)	ANCHOR BODY LENGTH (MM)	HOLE DIAMETER (MM)	MIN. HOLE DEPTH (MM)	BOX PACKING	CARTON PACKING
REFERENCE	-		Ø			
			•		•	
DROP-IN ANC	HOR BZP - NON	LIPPED				
DI0100100010	6	25	8	25	100	2000
DI0100100020	8	30	10	30	100	2000
DI0100100030	10	30	12	30	50	1000
DI0100100040	10	40	12	40	50	1000
DI0100100050	12	50	15	50	50	500
DI0100100060	12	50	16	50	50	500
DI0100100070	16	65	20	65	25	200
DI0100100080	20	80	25	80	25	100
DROP-IN ANC	HOR A2-304 ST	AINLESS STEEL	- NON LIPPED			State of the local division of the local div
DI0100200010	6	25	8	25	100	2000
DI0100200020	8	30	10	30	100	2000
DI0100200030	10	40	12	40	50	1000
DI0100200040	12	50	15	50	50	500
DI0100200050	12	50	16	50	50	500
DI0100200060	16	65	20	65	25	200
	HOR A4-316 ST		- NON LIPPED			and the second second
DI0100300010	6	25	8	25	100	2000
DI0100300010	8	30	10	30	100	2000
DI0100300020	0 10	40	12		50	1000
DI0100300030	10	40 50	12	40 50	50	500
DI0100300040	12	50	16	50	50	500
DI0100300050	12	65	20	65	25	200
	HOR BZP - LIPP		20	00	20	200
DI0100400010	6	25	8	25	100	2000
DI0100400010	8	30	10	30	100	2000
DI0100400020 DI0100400030	10	30 40	10	30 40	50	1000
	10	-		40 50		
DI0100400040 DI0100400050	12	50 50	15 16	50	50 50	1000 500
DI0100400050	12	60	20	60	25	200
	-					
DI0100400070	20	80	25	80	25	100
PRODUCT REFERENCE	ANCHOR/ROD DIAMETER		FOR US	E WITH:		BOX PACKING

PRODUCT	ANCHOR/ROD DIAMETER (MM)	ANCHOR BODY LENGTH (MM)	HOLE DIAMETER (MM)	MIN. HOLE DEPTH (MM)	BOX PACKING	CARTON PACKING
REFERENCE			$\gtrsim 0$			
•	•	•	•	•	•	
DROP-IN ANC	HOR BZP - NON	LIPPED				State Long with the
DI0100100010	6	25	8	25	100	2000
DI0100100020	8	30	10	30	100	2000
DI0100100030	10	30	12	30	50	1000
DI0100100040	10	40	12	40	50	1000
DI0100100050	12	50	15	50	50	500
DI0100100060	12	50	16	50	50	500
DI0100100070	16	65	20	65	25	200
DI0100100080	20	80	25	80	25	100
DROP-IN ANC	HOR A2-304 ST	AINLESS STEEL	- NON LIPPED			and the second se
DI0100200010	6	25	8	25	100	2000
DI0100200020	8	30	10	30	100	2000
DI0100200030	10	40	12	40	50	1000
DI0100200040	12	50	15	50	50	500
DI0100200050	12	50	16	50	50	500
DI0100200060	16	65	20	65	25	200
DROP-IN ANC	HOR A4-316 ST	AINLESS STEEL	- NON LIPPED			
DI0100300010	6	25	8	25	100	2000
DI0100300020	8	30	10	30	100	2000
DI0100300030	10	40	12	40	50	1000
DI0100300040	12	50	15	50	50	500
DI0100300050	12	50	16	50	50	500
DI0100300060	16	65	20	65	25	200
DROP-IN ANC	HOR BZP - LIPP	ED				-
DI0100400010	6	25	8	25	100	2000
DI0100400020	8	30	10	30	100	2000
DI0100400030	10	40	12	40	50	1000
DI0100400040	12	50	15	50	50	1000
DI0100400050	12	50	16	50	50	500
DI0100400060	16	60	20	60	25	200
DI0100400070	20	80	25	80	25	100
PRODUCT REFERENCE	ANCHOR/ROD DIAMETER		FOR US	E WITH:		BOX PACKING

PRODUCT	ANCHOR/ROD DIAMETER (MM)	ANCHOR BODY LENGTH (MM)	HOLE DIAMETER (MM)	MIN. HOLE DEPTH (MM)	BOX PACKING	CARTON PACKING	
REFERENCE			$\ggg \emptyset$				
			•		•		
DROP-IN ANC	HOR BZP - NON	ILIPPED				Contraction of the second	
DI0100100010	6	25	8	25	100	2000	
DI0100100020	8	30	10	30	100	2000	
DI0100100030	10	30	12	30	50	1000	
DI0100100040	10	40	12	40	50	1000	
DI0100100050	12	50	15	50	50	500	
DI0100100060	12	50	16	50	50	500	
DI0100100070	16	65	20	65	25	200	
DI0100100080	20	80	25	80	25	100	
DROP-IN ANC	HOR A2-304 ST	AINLESS STEEL	- NON LIPPED				
DI0100200010	6	25	8	25	100	2000	
DI0100200020	8	30	10	30	100	2000	
DI0100200030	10	40	12	40	50	1000	
DI0100200040	12	50	15	50	50	500	
DI0100200050	12	50	16	50	50	500	
DI0100200060	16	65	20	65	25	200	
DROP-IN ANC	HOR A4-316 ST	AINLESS STEEL	- NON LIPPED				
DI0100300010	6	25	8	25	100	2000	
DI0100300020	8	30	10	30	100	2000	
DI0100300030		40	12	40	50	1000	
DI0100300040	12	50	15	50	50	500	
DI0100300050	12	50	16	50	50	500	
DI0100300060	16	65	20	65	25	200	
DROP-IN ANC	HOR BZP - LIPP	ED					
DI0100400010	6	25	8	25	100	2000	
DI0100400020	8	30	10	30	100	2000	
DI0100400030	10	40	12	40	50	1000	
DI0100400040	12	50	15	50	50	1000	
DI0100400050	12	50	16	50	50	500	
DI0100400060		60	20	60	25	200	
DI0100400070	20	80	25	80	25	100	
210100100010	20		20	00	20	100	
PRODUCT REFERENCE	ANCHOR/ROD DIAMETER		FOR US	E WITH:		BOX PACKING	

PRODUCT	ANCHOR/ROD DIAMETER (MM)			HOLE DIAMETER MIN. HOLE DEPTH (MM) (MM)		CARTON PACKING	
REFERENCE			ZØ				
	HOR BZP - NON		•	•	•		
DI0100100010		25	8	25	100	2000	
DI0100100020	8	30	10	30	100	2000	
DI0100100030	10	30	12	30	50	1000	
DI0100100040	10	40	12	40	50	1000	
DI0100100050	12	50	15	50	50	500	
DI0100100060	12	50	16	50	50	500	
DI0100100070	16	65	20	65	25	200	
DI0100100080	20	80	25	80	25	100	
DROP-IN ANC	HOR A2-304 ST	AINLESS STEEL	- NON LIPPED			and the second second	
DI0100200010	6	25	8	25	100	2000	
DI0100200020	8	30	10	30	100	2000	
DI0100200030	10	40	12	40	50	1000	
DI0100200040	12	50	15	50	50	500	
DI0100200050	12	50	16	50	50	500	
DI0100200060	16	65	20	65	25	200	
DROP-IN ANC	HOR A4-316 ST	AINLESS STEEL	- NON LIPPED			State Color State	
DI0100300010	6	25	8	25	100	2000	
				-			
DI0100300020	8	30	10	30	100	2000	
DI0100300030	10 12	40	12	40	50	1000	
DI0100300040 DI0100300050	12	50	15	50 50	50	500	
		50	16		50	500	
DI0100300060		65	20	65	25	200	
	HOR BZP - LIPP			25	100		
DI0100400010	6	25	8	25	100	2000	
DI0100400020	8	30	10	30	100	2000	
DI0100400030	10	40	12	40	50	1000	
DI0100400040	12	50	15	50	50	1000	
DI0100400050	12	50	16	50	50	500	
DI0100400060	16	60	20	60	25	200	
DI0100400070	20	80	25	80	25	100	
PRODUCT REFERENCE	ANCHOR/ROD DIAMETER		FOR US	E WITH:		BOX PACKING	

	ANCHOR/ROD DIAMETER (MM)	ANCHOR BODY LENGTH (MM)	HOLE DIAMETER (MM)	MIN. HOLE DEPTH (MM)	BOX PACKING	CARTON PACKING
PRODUCT REFERENCE			ZØ			
	HOR BZP - NON					
DI0100100010	6	25	8	25	100	2000
DI0100100020	8	30	10	30	100	2000
DI0100100030	10	30	12	30	50	1000
DI0100100040	10	40	12	40	50	1000
DI0100100050	12	50	15	50	50	500
DI0100100060	12	50	16	50	50	500
DI0100100070	16	65	20	65	25	200
DI0100100080	20	80	25	80	25	100
DROP-IN ANC	HOR A2-304 ST	AINLESS STEEL	- NON LIPPED			Contraction of the local division of the loc
DI0100200010	6	25	8	25	100	2000
DI0100200020	8	30	10	30	100	2000
DI0100200030	10	40	12	40	50	1000
DI0100200040	12	50	15	50	50	500
DI0100200050	12	50	16	50	50	500
DI0100200060	16	65	20	65	25	200
DROP-IN ANC	HOR A4-316 ST	AINLESS STEEL	- NON LIPPED			Contract of the local division of
DI0100300010	6	25	8	25	100	2000
DI0100300020	8	30	10	30	100	2000
DI0100300020	10	40	10	40	50	1000
DI0100300040	12	50	12	50	50	500
DI0100300040	12	50	16	50	50	500
DI0100300060	16	65	20	65	25	200
	HOR BZP - LIPP		20	00	20	200
DI0100400010	6	25	8	25	100	2000
DI0100400010	8	30	10	30	100	2000
DI0100400020	10	40	12	40	50	1000
DI0100400030	12	50	12	40 50	50	1000
DI0100400040	12	50	16	50	50	500
DI0100400050	12	60	20	60	25	200
DI0100400000	20	80	25	80	25	100
	20		20		20	100
PRODUCT REFERENCE	ANCHOR/ROD DIAMETER		FOR US	E WITH:		BOX PACKING

|--|

I

REFERENCE	DIAMETER		PACKING
•	•	▼	•
DROP-IN ANC	HOR SETTING 1	rools	
DI0100600010	6	DI010010010 / DI0100200010 / DI0100300010 / DI0100300010	1
DI0100600020	8	DI0100100020 / DI0100200020 / DI0100300020 / DI0100300020	1
DI0100600030	10	DI0100100030 / DI0100100040 / DI0100200030 / DI0100300030 / DI0100400010	1
DI0100600040	12	DI0100100050-60 / DI0100200040-60 / DI0100300040-50 / DI0100400040-50	1
DI0100600050	16	DI0100100070 / DI0100200060 / DI0100300060 / DI0100400060	1
DI0100600060	20	DI0100100080 / DI0100400070	1

PRODUCT REFERENCE	DESCRIP

DROP-IN ANCHOR SETTING TOOLS

DI0100700010	M10 x 25 & M10 x 30 Soft Grip Setting Tool for Lipped Drop-In's
DI0100710020	M12 x 50 Soft Grip Setting Tool for Lipped Drop-In's
DI0100720030	SDS Setting Tool for M10 x 25 7 30mm Lipped Drop-In's Includes 1







CHEMICAL ANCHOR STUDS



(WHITE ZINC PLATED, STAINLESS STEEL & HDG)

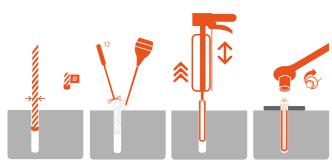
APPLICATIONS

- Anchoring of building structure
- Load carrying posts
- Application where flexibility on embedment depth is required
- Application close to edges

ANCHOR BAR MATERIAL:

Carbon Steel - white zinc plating Stainless Steel A2-304 Grade Stainless Steel A4-316 Grade Hot Dipped Galvanised

INSTALLATION DRAWINGS



ADVANTAGE

- Stress free anchorage with Resin products
- High loadings
- No reaction to chemicals and water after curing
- Flexible embedment depths

BASE MATERIAL

BRICK



HOLLOW BRICK



PRODUCT	ANCHOR/ROD DIAMETER (MM)	ANCHOR LENGTH (MM)	MAX.FIXTURE THICKNESS (MM)	MIN. HOLE DEPTH (MM)	BOX PACKING	CARTON PACKING
REFERENCE						
•	•	•		•	•	
CHEMICAL ANCHOR ST	rud - BZP					9
CS0100100010	8	110	20	80	10	200
CS0100100020	10	130	40	90	10	200
CS0100100030	12	160	40	110	10	90
CS0100100040	16	190	45	125	10	90
CS0100100050	20	260	85	170	10	40
CS0100100060	24	300	120	210	5	20
CHEMICAL ANCHOR ST	FUD - A2-304 S 1	TAINLESS STE	EL		interestation and the second second	
CS0100200010	6	110	20	80	10	200
CS0100200020	8	130	40	90	10	200
CS0100200030	10	160	40	110	10	90
CS0100200040	12	190	45	125	10	90
CS0100200050	12	260	85	170	10	40
CS0100200060	16	300	120	210	5	20
CHEMICAL ANCHOR S	FUD - A4-316 S 1	TAINLESS STE	EL		*****	
CS0100300010	6	110	20	80	10	200
CS0100300020	8	130	40	90	10	200
CS0100300030	10	160	40	110	10	90
CS0100300040	12	190	45	125	10	90
CS0100300050	12	260	85	170	10	40
CS0100300060	16	300	120	210	5	20
CHEMICAL ANCHOR S	rud - Hot Dipp	ED GALV		200	*****	-
CS0100400010	6	110	20	80	10	200
CS0100400020	8	130	40	90	10	200
CS0100400030	10	160	40	110	10	90
CS0100400040	12	190	45	125	10	90
CS0100400050	12	260	85	170	10	40
CS0100400060	16	300	120	210	5	20
				2.0		

	ANCHOR/ROD	ANCHOR	MAX.FIXTURE THICKNESS	MIN. HOLE	BOX PACKING	CARTON		
PRODUCT	DIAMETER (MM)	LENGTH (MM)	(MM)	DEPTH (MM)	Box PAORing	PACKING		
REFERENCE	+ D D							
▼	-	•	-	•				
CHEMICAL ANCHOR STUD - BZP								
CS0100100010	8	110	20	80	10	200		
CS0100100020	10	130	40	90	10	200		
CS0100100030	12	160	40	110	10	90		
CS0100100040	16	190	45	125	10	90		
CS0100100050	20	260	85	170	10	40		
CS0100100060	24	300	120	210	5	20		
CHEMICAL ANCHOR ST	UD - A2-304 ST	TAINLESS STE	EL			-		
CS0100200010	6	110	20	80	10	200		
CS0100200020	8	130	40	90	10	200		
CS0100200030	10	160	40	110	10	90		
CS0100200040	12	190	45	125	10	90		
CS0100200050	12	260	85	170	10	40		
CS0100200060	16	300	120	210	5	20		
CHEMICAL ANCHOR ST	UD - A4-316 S	IAINLESS STE	EL	-411M	****************			
CS0100300010	6	110	20	80	10	200		
CS0100300020	8	130	40	90	10	200		
CS0100300030	10	160	40	110	10	90		
CS0100300040	12	190	45	125	10	90		
CS0100300050	12	260	85	170	10	40		
CS0100300060	16	300	120	210	5	20		
CHEMICAL ANCHOR ST	UD - HOT DIPP	ED GALV		dente	****	and the second s		
CS0100400010	6	110	20	80	10	200		
CS0100400020	8	130	40	90	10	200		
CS0100400030	10	160	40	110	10	90		
CS0100400040	12	190	45	125	10	90		
CS0100400050	12	260	85	170	10	40		
CS0100400060	16	300	120	210	5	20		

PRODUCT	ANCHOR/ROD DIAMETER (MM)	ANCHOR LENGTH (MM)	MAX.FIXTURE THICKNESS (MM)	MIN. HOLE DEPTH (MM)	BOX PACKING	CARTON PACKING
REFERENCE	- - -					
CHEMICAL ANCHOR ST	UD - BZP	•	•			
CS0100100010	2	110	20	20	10	202
CS0100100010	8 10	110 130	20 40	80 90	10 10	200 200
CS0100100020	10	160	40	90	10	200
			-		-	
CS0100100040 CS0100100050	16 20	190 260	45 85	125 170	10 10	90 40
	20	300	85 120	210	5	40 20
CS0100100060	24	300	120	210	5	20
CHEMICAL ANCHOR ST	'UD - A2-304 S'	TAINLESS STE	EL	-		
CS0100200010	6	110	20	80	10	200
CS0100200020	8	130	40	90	10	200
CS0100200030	10	160	40	110	10	90
CS0100200040	12	190	45	125	10	90
CS0100200050	12	260	85	170	10	40
CS0100200060	16	300	120	210	5	20
CHEMICAL ANCHOR ST	- 'UD - A4-316 S'	TAINLESS STE	EL			
						_
CS0100300010	6	110	20	80	10	200
CS0100300020	8	130	40	90	10	200
CS0100300030	10	160	40	110	10	90
CS0100300040	12	190	45	125	10	90
CS0100300050	12	260	85	170	10	40
CS0100300060	16	300	120	210	5	20
CHEMICAL ANCHOR ST	UD - HOT DIPP	ED GALV		dan.	****	
CS0100400010	6	110	20	80	10	200
CS0100400020	8	130	40	90	10	200
CS0100400030	10	160	40	110	10	90
CS0100400040	12	190	45	125	10	90
CS0100400050	12	260	85	170	10	40
CS0100400060	16	300	120	210	5	20

CS0100400010	6	110
CS0100400020	8	130
CS0100400030	10	160
CS0100400040	12	190
CS0100400050	12	260
CS0100400060	16	300

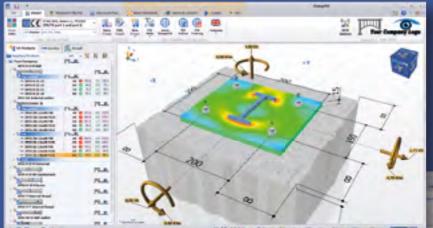


DesignFiX®

The Benchmark for Anchor Design Become a Real Anchor Professional

DesignFiX is an all-purpose anchor design program for manufacturers of fasteners for free distribution to their clients such as engineers, planners or craftsmen. By using the software, the clients can design mechanical and chemical heavy duty anchors under static loads and under the influence of earthquake.







DesignFiX®









WINDOW FRAME SCREWS

(WHITE ZINC PLATED)

PRODUCT REFERENCE	ANCHOR/ROD DIAMETER (MM)	ANCHOR LENGTH (MM)	MAX.FIXTURE THICKNESS (MM)	HOLE DIAMETER (MM)	DRIVER BIT SIZE	BOX PACKING
		•	•	•	There are a second second	
WINDOW FRAME SC	REW CSK HEA	D - BZP			Passessesses	
WF0100100010	7.5	42	10	6	T30	100
WF0100100020	7.5	52	20	6	T30	100
WF0100100030	7.5	62	30	6	T30	100
WF0100100040	7.5	72	40	6	T30	100
WF0100100050	7.5	82	50	6	T30	100
WF0100100060	7.5	92	60	6	T30	100
WF0100100070	7.5	102	70	6	T30	100
WF0100100080	7.5	112	80	6	T30	100
WF0100100090	7.5	122	90	6	T30	100
WF0100100100	7.5	132	100	6	T30	100
WF0100100110	7.5	152	120	6	T30	100
WF0100100120	7.5	182	150	6	T30	100
WF0100100130	7.5	202	170	6	T30	100
WF0100100140	7.5	212	180	6	T30	100

APPLICATIONS

- Metal fastening of door and window casings
- Fastening of door and window frames
- Fastening of fire resistant doors
- Fire resistant fastening of cabling
- Fastening of wood strips

ANCHOR BAR MATERIAL:

Carbon Steel - white zinc plating

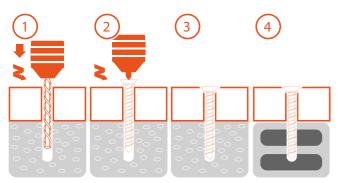
ADVANTAGE

- Small hole diameter, small drill bits
- Full length thread prevents frame movement
- Non-flammable fastening

BASE MATERIAL



INSTALLATION DRAWINGS





WF0100100010	7.5	42
WF0100100020	7.5	52
WF0100100030	7.5	62
WF0100100040	7.5	72
WF0100100050	7.5	82
WF0100100060	7.5	92
WF0100100070	7.5	102
WF0100100080	7.5	112
WF0100100090	7.5	122
WF0100100100	7.5	132
WF0100100110	7.5	152
WF0100100120	7.5	182
WF0100100130	7.5	202
WF0100100140	7.5	212

WINDOW FRAME SCREW ROUND HEAD - BZP

WF0100200010	7.5	42
WF0100200020	7.5	52
WF0100200030	7.5	62
WF0100200040	7.5	72
WF0100200050	7.5	82
WF0100200060	7.5	92
WF0100200070	7.5	102
WF0100200080	7.5	112
WF0100200090	7.5	122
WF0100200100	7.5	132
WF0100200110	7.5	152
WF0100200120	7.5	182
WF0100200130	7.5	202
WF0100200140	7.5	212



10	6	T30	100
20	6	T30	100
30	6	T30	100
40	6	T30	100
50	6	T30	100
60	6	T30	100
70	6	T30	100
80	6	T30	100
90	6	T30	100
100	6	T30	100
120	6	T30	100
150	6	T30	100
170	6	T30	100
180	6	T30	100

METAL HAMMER DRIVE ANCHORS



(WHITE ZINC PLATED AND BLACAK PHOSPHATE)

APPLICATIONS

- Pipe hanging
- Cable trays
- Metal tracking
- Security Fixtures
- Concrete Formworks

ANCHOR BAR MATERIAL:

Carbon Steel - white zinc plating Carbon Steel - black phosphate coating

ADVANTAGE

- One piece pre-expanding anchor
- Tamper proof (Flat and Mushroom Head)

BASE MATERIAL

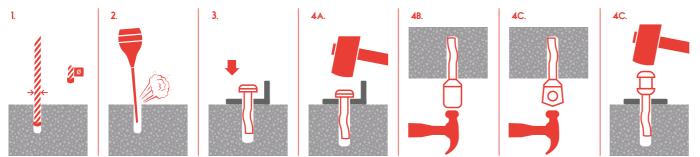


GROUTED

HEAD TYPES



INSTALLATION DRAWINGS





PRODUCT	ANCHOR DIAMETER (MM)	ANCHOR LENGTH (MM)	DRILL DIAMETER (MM)	MIN EMBEDMENT DEPTH (MM)	FIXTURE CLEARANCE HOLE (MM)	BOX PACKING	CARTON PACKING
			ZØ				
•	•	T	•	•	•		•
MHD FLAT HEA	AD - BZP						and the second sec
MD0100100010	5	25	5	18	6	100	1000
MD0100100020	5	32	5	18	6	100	1000
MD0100100030	5	38	5	32	6	100	1000
MD0100100040	5	50	5	32	6	100	1000
MD0100100050	5	63	5	32	6	100	1000
MD0100100060	5	75	5	32	6	100	1000
MD0100100070	5	100	5	32	6	100	1000
MD0100100080	6.5	32	6.5	32	8	100	1000
MD0100100090	6.5	38	6.5	32	8	100	1000
MD0100100100	6.5	50	6.5	32	8	100	1000
MD0100100110	6.5	63	6.5	32	8	100	1000
MD0100100120	6.5	75	6.5	32	8	100	1000
MD0100100130	6.5	87	6.5	32	8	100	1000
MD0100100140	6.5	100	6.5	32	8	100	1000
MHD MUSHRO	OM HEAD - E	SZP				4 <u></u>	
MH0100200010	5	25	5	18	6	100	1000

MD0100100010	5	25	5
MD0100100020	5	32	5
MD0100100030	5	38	5
MD0100100040	5	50	5
MD0100100050	5	63	5
MD0100100060	5	75	5
MD0100100070	5	100	5
MD0100100080	6.5	32	6.5
MD0100100090	6.5	38	6.5
MD0100100100	6.5	50	6.5
MD0100100110	6.5	63	6.5
MD0100100120	6.5	75	6.5
MD0100100130	6.5	87	6.5
MD0100100140	6.5	100	6.5

MH0100200010	5	25	5	
MH0100200020	5	32	5	
MH0100200030	5	38	5	
MH0100200040	5	50	5	
MH0100200050	5	63	5	
MH0100200060	5	75	5	
MH0100200070	5	100	5	
MH0100200080	6.5	32	6.5	
MH0100200090	6.5	38	6.5	
MH0100200100	6.5	50	6.5	
MH0100200110	6.5	63	6.5	
MH0100200120	6.5	75	6.5	
MH0100200130	6.5	87	6.5	
MH0100200140	6.5	100	6.5	

construction anchors

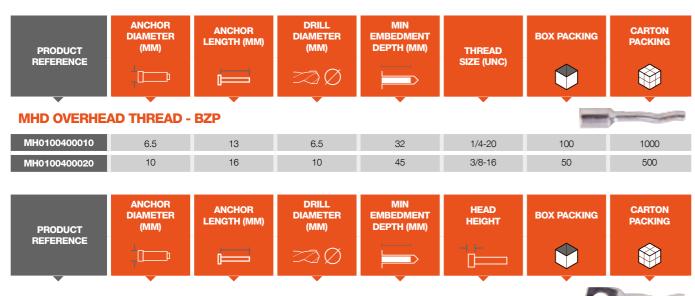
18	6	100	1000
18	6	100	1000
32	6	100	1000
32	6	100	1000
32	6	100	1000
32	6	100	1000
32	6	100	1000
32	8	100	1000
32	8	100	1000
32	8	100	1000
32	8	100	1000
32	8	100	1000
32	8	100	1000
32	8	100	1000



PRODUCT	ANCHOR DIAMETER (MM)	ANCHOR LENGTH (MM)	DRILL DIAMETER (MM)	MIN EMBEDMENT DEPTH (MM)	FIXTURE CLEARANCE HOLE (MM)	BOX PACKING	CARTON PACKING
NEFENENCE	- -		ZØ				
MHD MUSHRO	OM HEAD - P						
				10	-	100	1000
MH0100300010	5	25	5	18	6	100	1000
MH0100300020	5	32	5	18	6	100	1000
MH0100300030	5	38	5	32	6	100	1000
MH0100300040	5	50	5	32	6	100	1000
MH0100300050	5	63	5	32	6	100	1000
MH0100300060	5	75	5	32	6	100	1000
MH0100300070	5	100	5	32	6	100	1000
MH0100300080	6.5	32	6.5	32	8	100	1000
MH0100300090	6.5	38	6.5	32	8	100	1000
MH0100300100	6.5	50	6.5	32	8	100	1000
MH0100300110	6.5	63	6.5	32	8	100	1000
MH0100300120	6.5	75	6.5	32	8	100	1000
MH0100300130	6.5	87	6.5	32	8	100	1000
MH0100300140	6.5	100	6.5	32	8	100	1000

MHD FORMING - BZP

MH0100600010 100 5 1000 100 1000 MH0100600020 50 32 70 32 100 1000 MH0100 5 5 6.5 1000 MH0100600040 70 6.5 32 100



MHD TIE WIRE - BZP MH0100500010 14.68 100 1000 5 32 16.27 50 500 MH0100500020 6.5 6.5 32





Stuttgart Fastener Fair in May 2021



Find us at the bi-annual



METAL FRAME ANCHOR

(WHITE ZINC PLATED)



APPLICATIONS

- Fixing Window and Door Frames
- Fireproof Doors and Windows
- Fixing of batons

ANCHOR BAR MATERIAL:

Carbon Steel Screw and Nut Steel Cold Galvanised Sleeve

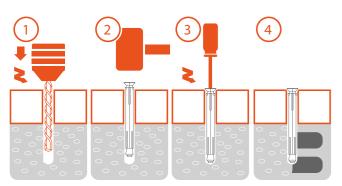
ADVANTAGE

- No Frame tightening to base material
- Good corrosion resitance
- Taper nut does not rotate which prevents it falling
 out

BASE MATERIAL

AERATED







PRODUCT REFERENCE	ANCHOR DIAMETER (MM)	MIN. HOLE DEPTH (MM)	ANCHOR LENGTH (MM)	MAX. FIXTURE THICKNESS (MM)	SCREW HEAD DIAMETER (MM)	SCREW THREAD DIAMETER (MM)	BOX PACKING	CARTON PACKING
MF0100100010	10	70	72	25	13	6	100	500
MF0100100020	10	70	92	40	13	6	100	500
MF0100100030	10	70	112	60	13	6	100	500
MF0100100040	10	70	132	80	13	6	100	500
MF0100100050	10	70	152	100	13	6	100	500
MF0100100060	10	70	182	130	13	6	100	100
MF0100100070	10	70	202	150	13	6	100	100





EXPRESS NAIL (WHITE ZINC PLATED)



APPLICATIONS

- Fixing of squared timber
- Fixing of metal profilesFixing of sunstructures of wood and metal

ANCHOR BAR MATERIAL:

Carbon Steel (Nail)

ADVANTAGE

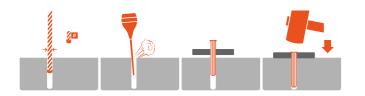
- Expands entire length of anchorNo screw or plug required
- Rapid quick setting
- Ideal for interior timber works

BASE MATERIAL

AERATED



	ANCHOR DIAMETER	ANCHOR LENGTH (MM)	MIN. HOLE DEPTH	DRILL DIAMETER	MAX.FIXTURE THICKNESS	BOX PACKING	CARTON PACKING
PRODUCT REFERENCE	(MM)		(MM)	(MM)	(MM)		
•	•	•	•			T	•
EN0100100010	6	30	40	6	-	100	500
EN0100100020	6	40	40	6	10	100	500
EN0100100030	6	50	40	6	20	100	500
EN0100100040	6	60	40	6	30	100	500
EN0100100050	6	80	40	6	50	100	500
EN0100100060	8	50	50	8	10	50	250
EN0100100070	8	70	50	8	30	50	250
EN0100100080	8	90	50	8	50	50	250
EN0100100090	8	110	50	8	70	50	250
EN0100100100	8	130	50	8	90	50	250
EN0100100110	8	150	50	8	110	50	250
EN0100100120	8	180	50	8	140	50	250







METAL INSULATION ANCHOR

(CARBON STEEL)



APPLICATIONS

Fixing insulation

ADVANTAGE

- Quick and simple hammer installation
- Tappered shank

BASE MATERIAL

- Fire resistance
- One piece fastening

ANCHOR BAR MATERIAL:

Carbon Steel Galvanised Coating







PRODUCT REFERENCE		ANCHOR LENGTH (MM)	MIN. HOLE DEPTH (MM)	DRILL DIAMETER (MM)	HEAD/DISC DIAMETER (MM)	POLYBAG PACKING	CARTON PACKING
MI00100010	8	60	70	8	35	50	500
MI00100010	0	00	70	0	30	50	500
MI00100020	8	90	100	8	35	50	500
MI00100030	8	110	120	8	35	50	500
MI00100040	8	140	150	8	35	50	500
MI00100050	8	170	180	8	35	50	450
MI00100060	8	200	210	8	35	50	350



SMH STEEL HAMMERDRIVE

(WHITE ZINC PLATED)



PRODUCT REFERENCE		ANCHOR LENGTH (MM)	MIN. HOLE DEPTH (MM)	DRILL DIAMETER (MM)	HEAD/DISC DIAMETER (MM)	POLYBAG PACKING	
•							
SM0100100010	6	40	6	40	5	100	1000
SM0100100020	6	70	6	40	35	100	1000

APPLICATIONS

- Suspension from Concrete ceilings
- Attaching slit steel straps
- Punched bands
- Ventilation systemsCladding brackets
- Metal sheets

Carbon Steel

ADVANTAGE

- Quick impact instalation Universal Anchoring
- Small hole diameter

ANCHOR BAR MATERIAL:

BASE MATERIAL

















ZAMAC NAIL-IN ANCHORS

(ZAMAC ALLOY)





PRODUCT	ANCHOR DIAMETER	ANCHOR LENGTH	DRILL DIAMETER	HEAD HEIGHT	FIXTURE CLEARANCE HOLE	BOX PACKING	CARTON PACKING
REFERENCE		Ø					
ZAMAC NAIL-I	N ROUND HD	•	•	•	•	·	(
ZA0100100010	6	20	6	25	1	100	1000
ZA0100100020	6	25	6	25	5	100	1000
ZA0100100030	6	30	6	25	10	100	1000
ZA0100100040	6	40	6	25	20	100	1000
ZA0100100050	6	50	6	25	30	100	1000
ZA0100100060	6	60	6	25	40	100	1000
ZN0100100070	1/4	3	1/4	9/64	5/16	100	500
ZAMAC NAIL-I	N FLAT HD					-	
ZA0100200010	6	40	6	25	20	100	1000

25

30

100

1000

ZA0100200010	6	40	6
ZA0100200020	6	50	6

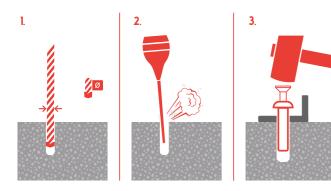
APPLICATIONS

- Roof Flashing
- Brick Ties
- Signage
- Electrical Fixtures

ANCHOR BAR MATERIAL:

Zamac Alloy (Body) Carbon Steel (Nail)

INSTALLATION DRAWINGS



ADVANTAGE

- Quick impact instalation Universal Anchoring
- Hammer or Screwdriver driven
- Use in a variety of base materials

HEAD TYPES



BASE MATERIAL









ADVANTAGE

BASE MATERIAL

STANDARD

BRICK

HOLLOW BLOCK

LIGHTWEIGHT

AERATED

NYLON HAMMERSCREWS

(WHITE ZINC PLATED)



Nylon sleeve ensures durable and safe fastening
Resistant to extreme temperatures -40° to +80°

PRODUCT	ANCHOR	ANCHOR	DRILL
	DIAMETER	LENGTH	DIAMETER
REFERENCE			ZØ

NYLON HAMMERSCREWS CYLINDRICAL HEAD BZP

NH0100100010	5	25	35
NH0100100020	5	30	35
NH0100100030	5	40	35
NH0100100040	5	50	35
NH0100100050	6	35	40
NH0100100060	6	40	40
NH0100100070	6	50	40
NH0100100080	6	60	40
NH0100100090	6	70	40
NH0100100100	6	80	40
NH0100100110	8	60	50
NH0100100120	8	80	50
NH0100100130	8	100	50
NH0100100140	8	120	50
NH0100100150	8	140	50

NYLON HAMMERSCREWS FLAT HEAD BZP

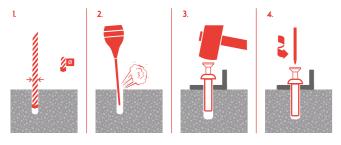
NH0100200010	5	25	35
NH0100200020	5	30	35
NH0100200030	5	40	35
NH0100200040	5	50	35
NH0100200050	6	35	40
NH0100200060	6	40	40
NH0100200070	6	50	40
NH0100200080	6	60	40
NH0100200090	6	70	40
NH0100200100	6	80	40
NH0100200110	8	60	50
NH0100200120	8	80	50
NH0100200130	8	100	50
NH0100200140	8	120	50
NH0100200150	8	140	50

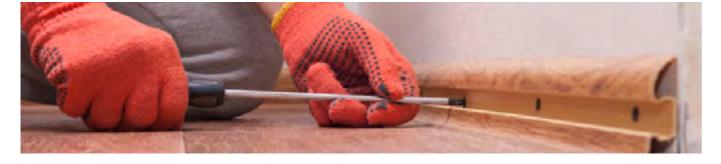
APPLICATIONS

- Fastening of steel sections to wall, floors and ceilings
- Clamping rings for cabling and tubing
- Wood strips and Skirting

ANCHOR BAR MATERIAL:

Nylon (Body) Carbon Steel (Nail)







HEAD HEIGHT HOLECLEARANCE HOLEBOX PACKINGCLARION PACKING183.5100583.5100583.51001583.51002593.51002593.51001094100209410030941004094100501150504011550601155060115501001155080115501001155010011550593.5100583.5100593.5100594100109410020941001094100209410020941002094100209410020941002011550401155060115506011550		FIXTURE		
Image Image Image Image - 8 3.5 100 5 8 3.5 100 15 8 3.5 100 25 9 3.5 100 5 9 4 100 5 9 4 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 50 11 4 100 50 11 50 50 40 11 5 50 60 11 5 50 80 11 5 50 100 11 5 50 5 8 3.5 100 5 8 3.5 100 5 9 3.5 100 15 8 3.5	HEAD HEIGHT	CLEARANCE		CARTON PACKING
5 8 3.5 100 15 8 3.5 100 25 9 3.5 100 5 9 4 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 40 9 4 100 20 11 4 100 20 11 5 50 40 11 5 50 40 11 5 50 40 11 5 50 60 11 5 50 100 11 5 50 100 11 5 50 5 8 3.5 100 5 9 4 100 5 9 4 100 50 9 4 <td< th=""><th></th><th></th><th></th><th></th></td<>				
5 8 3.5 100 15 8 3.5 100 25 9 3.5 100 5 9 4 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 40 9 4 100 20 11 4 100 20 11 5 50 40 11 5 50 40 11 5 50 40 11 5 50 60 11 5 50 100 11 5 50 100 11 5 50 5 8 3.5 100 5 9 4 100 5 9 4 100 50 9 4 <td< th=""><th></th><th></th><th></th><th></th></td<>				
5 8 3.5 100 15 8 3.5 100 25 9 3.5 100 5 9 4 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 40 9 4 100 20 11 4 100 20 11 5 50 40 11 5 50 40 11 5 50 40 11 5 50 60 11 5 50 100 11 5 50 100 11 5 50 5 8 3.5 100 5 9 4 100 5 9 4 100 50 9 4 <td< th=""><th></th><th>-</th><th>Million and American</th><th>+ m</th></td<>		-	Million and American	+ m
15 8 3.5 100 25 9 3.5 100 5 9 4 100 10 9 4 100 20 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 50 11 4 100 20 11 5 50 40 11 5 50 40 11 5 50 40 11 5 50 60 11 5 50 80 11 5 50 100 11 5 50 100 11 5 50 5 9 3.5 100 5 9 4 100 5 9 4 100 50 9 4	-	8	3.5	100
25 9 3.5 100 5 9 4 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 40 9 4 100 50 11 4 100 50 11 5 50 40 11 5 50 40 11 5 50 60 11 5 50 60 11 5 50 100 11 5 50 100 11 5 50 100 11 5 50 100 11 5 50 5 9 3.5 100 5 9 4 100 5 9 4 100 10 9 4	5	8	3.5	100
594100109410020941003094100309410040941005011410020115504011550601155060115501001155010011550583.5100583.51001583.5100594100109410020941003094100409410050114100201155040115506011550	15	8	3.5	100
1094100209410030941004094100501141002011550401155060115508011550100115501001155010011550100115501001155010011550100115501583.51002593.5100594100109410020941003094100401155040115506011550	25	9	3.5	100
20 9 4 100 30 9 4 100 40 9 4 100 50 11 4 100 20 11 5 50 40 11 5 50 40 11 5 50 40 11 5 50 60 11 5 50 60 11 5 50 80 11 5 50 100 11 5 50 100 11 5 50 100 11 5 50 100 11 5 50 100 11 5 100 15 8 3.5 100 15 9 4 100 10 9 4 100 20 9 4 100 30 9 4	5	9	4	100
309410040941005011410020115504011550601155080115501001155010011550100115501001155010011550100115100583.51001583.51001594100109410010941003094100409410050114100201155040115506011550	10	9	4	100
40 9 4 100 50 11 4 100 20 11 5 50 40 11 5 50 60 11 5 50 60 11 5 50 80 11 5 50 100 11 5 50 100 11 5 50 100 11 5 50 100 11 5 50 100 11 5 50 - 8 3.5 100 5 8 3.5 100 15 8 3.5 100 25 9 3.5 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 50 11 5	20	9	4	100
50 11 4 100 20 11 5 50 40 11 5 50 60 11 5 50 60 11 5 50 80 11 5 50 100 11 5 50 100 11 5 50 - 8 3.5 100 5 8 3.5 100 5 8 3.5 100 5 9 3.5 100 25 9 3.5 100 5 9 4 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 50 11 4 100 20 11 5 50 40 11 5	30	9	4	100
20 11 5 50 40 11 5 50 60 11 5 50 80 11 5 50 100 11 5 50 100 11 5 50 - 8 3.5 100 - 8 3.5 100 5 8 3.5 100 15 8 3.5 100 25 9 3.5 100 5 9 4 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 50 11 4 100 20 11 5 50 40 11 5 50 60 11 5 50	40	9	4	100
4011550601155080115501001155010011550-83.5100583.51001583.51002593.5100594100109410010941003094100409410050114100201155040115506011550	50	11	4	100
6011550801155010011550	20	11	5	50
80 11 5 50 100 11 5 50 100 11 5 50	40	11	5	50
10011550-83.5100583.5100583.51001583.51002593.5100594100109410020941003094100409410050114100201155040115506011550	60	11	5	50
- 8 3.5 100 5 8 3.5 100 5 8 3.5 100 15 8 3.5 100 25 9 3.5 100 5 9 3.5 100 5 9 3.5 100 5 9 4 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 50 11 4 100 20 11 5 50 40 11 5 50 60 11 5 50	80	11	5	50
583.51001583.51002593.51005941001094100109410020941003094100409410050114100201155040115506011550	100	11	5	50
583.51001583.51002593.51005941001094100109410020941003094100409410050114100201155040115506011550			-	+ m
583.51001583.51002593.51005941001094100109410020941003094100409410050114100201155040115506011550		8	35	100
15 8 3.5 100 25 9 3.5 100 5 9 3.5 100 5 9 4 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 50 11 4 100 20 11 5 50 40 11 5 50 40 11 5 50 60 11 5 50				
25 9 3.5 100 5 9 4 100 10 9 4 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 50 11 4 100 20 11 5 50 40 11 5 50 60 11 5 50				
5 9 4 100 10 9 4 100 20 9 4 100 30 9 4 100 40 9 4 100 50 11 4 100 20 9 5 50 40 9 4 100 50 11 4 100 40 11 5 50 40 11 5 50 60 11 5 50				
109410020941003094100409410050114100201155040115506011550				
20941003094100409410050114100201155040115506011550				
30 9 4 100 40 9 4 100 50 11 4 100 20 11 5 50 40 11 5 50 40 11 5 50 60 11 5 50				
409410050114100201155040115506011550				
50114100201155040115506011550				
20 11 5 50 40 11 5 50 60 11 5 50				
40115506011550				
60 11 5 50				
	80	11	5	50
100 11 5 50				



NYLON NAIL-IN ANCHORS

(NYLON BODY, CARBON STEEL NAIL)



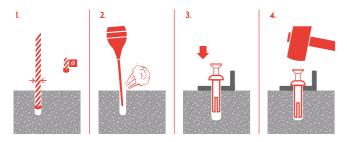
APPLICATIONS

- Electrical Fixtures and Fittings
- Brick Ties
- Aluminium frames

ANCHOR BAR MATERIAL:

Nylon (Body) Carbon Steel (Nail)

INSTALLATION DRAWINGS



ADVANTAGE

- Quick impact instalation
- Universal Anchoring
- Hammer or Screwdriver driven

HEAD TYPES



BASE MATERIAL





PRODUCT REFERENCE	ANCHOR DIAMETER (MM)	ANCHOR LENGTH (MM)	DRILL DIAMETER (MM)	HEAD HEIGHT (MM)	BOX PACKING	CARTON PACKING
			$\simeq 0$			
NYLON NAIL-IN F	ROUND HD				Guene	
NA0100100010	5	25	5	3	100	1000
NA0100100020	6.5	20	6.5	3	100	1000
NA0100100030	6.5	25	6.5	3	100	1000
NA0100100040	6.5	38	6.5	3	100	1000
NA0100100050	6.5	50	6.5	3	100	1000
NA0100100060	6.5	75	6.5	3	100	1000
NA0100100070	6.5	100	6.5	3	100	1000
NA0100100080	6.5	150	6.5	3	100	1000
NYLON NAIL-IN F	LAT HD				(1999)	
NA0100200010	5	25	5	3	100	1000

NA0100200010	5	25	5	3	100	1000
NA0100200020	6.5	20	6.5	3	100	1000
NA0100200030	6.5	25	6.5	3	100	1000
NA0100200040	6.5	38	6.5	3	100	1000
NA0100200050	6.5	50	6.5	3	100	1000
NA0100200060	6.5	75	6.5	3	100	1000
NA0100200070	6.5	100	6.5	3	100	1000
NA0100200080	6.5	150	6.5	3	100	1000

NYLON NAIL-IN MUSHROOM HD

NA0100300010	5	25	5	3	100	1000
NA0100300020	6.5	20	6.5	3	100	1000
NA0100300030	6.5	25	6.5	3	100	1000
NA0100300040	6.5	38	6.5	3	100	1000
NA0100300050	6.5	50	6.5	3	100	1000
NA0100300060	6.5	75	6.5	3	100	1000
NA0100300070	6.5	100	6.5	3	100	1000
NA0100300080	6.5	150	6.5	3	100	500





g	-

PLASTERBOARD ANCHORS

(NYLON OR ZAMAC ALLOY)



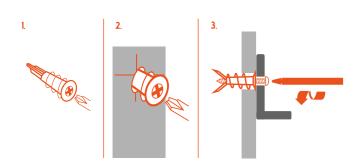
APPLICATIONS

- Electrical fixtures
- Shelving
- Telephone systems
- Curtain Poles
- Plumbing
- Interior finishing
- Miscellaneous hardware

ANCHOR BAR MATERIAL:

Engineered Nylon Zamac Alloy

INSTALLATION DRAWINGS



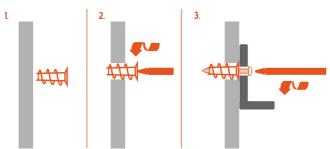
ADVANTAGE

- Fully removable
- No requirement for pre-drilling
- Accurate fixing with tooth design
- Open-Mouth version suits and length of screw

BASE MATERIAL



OPEN MOUTH





PRODUCT REFERENCE	ANCHOR LENGTH	COLLAR SIZE	THREAD LENGTH	SCREW SIZE RANGE (NO.)	SCREWS SIZE	BOX PACKING	CARTON PACKING
					- 0		
NYLON PLAST	ERBOARD AN	ICHOR		•			
PN0100100010	42	14	24	6,8	no screws	100	2000
PN0100100020	42	14	24	6,8	8 x 25	100	2000
ZINC PLASTERBOARD ANCHOR							
PZ0100100010	32	14	24	8,10	no screws	100	2000
PZ0100100020	32	14	24	8,10	8 x 25	100	2000
NYLON PLASTERBOARD OPEN MOUTH ANCHOR							
PZ0200100010	32	14	24	8,10	no screws	100	2000
PZ0200100020	32	14	24	8,10	8 x 25	100	2000
ZINC PLASTERBOARD OPEN MOUTH ANCHOR							High Street
PN0200100010	32	14	24	8,10	no screws	100	1000
PN0200100020	32	14	24	8,10	8 x 25	100	1000

PN0100100010	42	14	24
PN0100100020	42	14	24

PZ0100100010	32	14	24
PZ0100100020	32	14	24

PZ0200100010	32	14	24
PZ0200100020	32	14	24

PN0200100010	32	14	24
PN0200100020	32	14	24





HOLLOW WALL ANCHORS

(NYLON BODY, CARBON STEEL NAIL)



PRODUCT	SCREW THREAD SIZE (MM)	ANCHOR LENGTH (MM)	HOLE DIAMETER (MM)	WALL THICKNESS (MM)	BOX PACKING	CARTON PACKING
REFERENCE			ZØ			
•				•		•
HOLLOW WALL ANCHORS (WITH SCREW)						
HA0100100010	4	21	8	0 - 4	200	2000
HA0100100020	4	32	8	4 - 9	200	2000
HA0100100030	4	38	8	9 - 16	100	1000
HA0100100040	4	46	8	3 - 20	100	1000
HA0100100050	4	46	8	15 - 21	100	1000
HA0100100060	4	54	8	18 - 28	100	1000
HA0100100070	4	59	8	32 - 38	100	1000
HA0100100080	5	37	10	5 - 13	100	1000
HA0100100090	5	52	10	5 - 18	100	1000
HA0100100100 HA0100100110	5	65 80	10 10	18 - 32 32 - 45	50 50	500 500
HA0100100110	6	37	13	5 - 12	100	1000
HA0100100120	6	52	13	5 - 12	50	500
HA0100100140	6	65	13	16 - 32	50	500
HA0100100150	8	37	15	5 - 12	50	500
HA0100100160	8	55	15	5 - 16	50	500
HA0100100170	8	65	15	16 - 32	50	500
	L ANCHORS (B	ODY ONLY)				
HA0200100010	4	21	8	0 - 4	200	2000
HA0200100020	4	32	8	4 - 9	200	2000
HA0200100030	4	38	8	9 - 16	100	1000
HA0200100040	4	46	8	3 - 20	100	1000
HA0200100050	4	46	8	15 - 21	100	1000
HA0200100060	4	54	8	18 - 28	100	1000
HA0200100070	4	59	8	32 - 38	100	1000
HA0200100080	5	37	10	5 - 13	100	1000
HA0200100090	5	52	10	5 - 18	100	1000
HA0200100100	5	65	10	18 - 32	50	500
HA0200100110	5	80	10	32 - 45	50	500
HA0200100120	6	37	13	5 - 12	100	1000
HA0200100130	6	52	13	5 - 16	50	500
HA0200100140	6	65	13	16 - 32	50	500
HA0200100150	8	37	15	5 - 12	50	500
HA0100100160	8	55	15	5 - 16	50	500
		1				
HA0100100170	8	65	15	16 - 32	50	500

APPLICATIONS

- Pictures
- Lighting
- Shelves
- Cable Conduits to drywall
- Wood strips

ANCHOR BAR MATERIAL:

Carbon Steel - white zinc plating

INSTALLATION DRAWINGS

ADVANTAGE

- Anti-Rotation lock
- Fast and easy instalation and removal
- Non-flamable fixing

BASE MATERIAL



ACCESSORIES

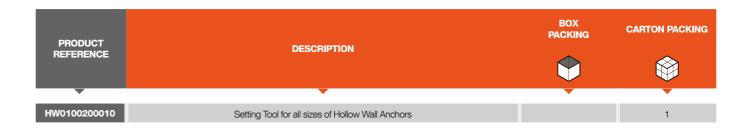


Hollow wall Setting Tool



PRODUCT	SCREW THREAD SIZE (MM)	ANCHOR LENGTH (MM)	HOLE DIAMETER (MM)	WALL THICKNESS (MM)	BOX PACKING	CARTON PACKING	
REFERENCE			ZØ				
•	•	•	•				
HOLLOW WALL ANCHORS (WITH SCREW)							
HA0100100010	4	21	8	0 - 4	200	2000	
HA0100100020	4	32	8	4 - 9	200	2000	
HA0100100030	4	38	8	9 - 16	100	1000	
HA0100100040	4	46	8	3 - 20	100	1000	
HA0100100050	4	46	8	15 - 21	100	1000	
HA0100100060	4	54	8	18 - 28	100	1000	
HA0100100070	4	59	8	32 - 38	100	1000	
HA0100100080	5	37	10	5 - 13	100	1000	
HA0100100090	5	52	10	5 - 18	100	1000	
HA0100100100	5	65	10	18 - 32	50	500	
HA0100100110	5	80	10	32 - 45	50	500	
HA0100100120	6	37	13	5 - 12	100	1000	
HA0100100130	6	52	13	5 - 16	50	500	
HA0100100140	6	65	13	16 - 32	50	500	
HA0100100150	8	37	15	5 - 12	50	500	
HA0100100160 HA0100100170	8	55 65	15 15	5 - 16 16 - 32	50 50	500 500	
	L ANCHORS (B				E		
HA0200100010	4	21	8	0 - 4	200	2000	
HA0200100020	4	32	8	4 - 9	200	2000	
HA0200100030	4	38	8	9 - 16	100	1000	
HA0200100040	4	46	8	3 - 20	100	1000	
HA0200100050	4	46	8	15 - 21	100	1000	
HA0200100060	4	54	8	18 - 28	100	1000	
HA0200100070	4	59	8	32 - 38	100	1000	
HA0200100080	5	37	10	5 - 13	100	1000	
HA0200100090	5	52	10	5 - 18	100	1000	
HA0200100100	5	65	10	18 - 32	50	500	
HA0200100110	5	80	10	32 - 45	50	500	
HA0200100120	6	37	13	5 - 12	100	1000	
HA0200100130	6	52	13	5 - 16	50	500	
HA0200100140	6	65	13	16 - 32	50	500	
HA0200100150	8	37	15	5 - 12	50	500	
HA0100100160	8	55	15	5 - 16	50	500	
HA0100100170	8	65	15	16 - 32	50	500	

PRODUCT	SCREW THREAD SIZE (MM)	ANCHOR LENGTH (MM)	HOLE DIAMETER (MM)	WALL THICKNESS (MM)	BOX PACKING	CARTON PACKING	
REFERENCE			ZØ				
•	•						
HOLLOW WALL ANCHORS (WITH SCREW)							
HA0100100010	4	21	8	0 - 4	200	2000	
HA0100100020	4	32	8	4 - 9	200	2000	
HA0100100030	4	38	8	9 - 16	100	1000	
HA0100100040	4	46	8	3 - 20	100	1000	
HA0100100050	4	46	8	15 - 21	100	1000	
HA0100100060	4	54	8	18 - 28	100	1000	
HA0100100070	4	59	8	32 - 38	100	1000	
HA0100100080	5	37	10	5 - 13	100	1000	
HA0100100090	5	52	10	5 - 18	100	1000	
HA0100100100	5	65	10	18 - 32	50	500	
HA0100100110	5	80	10	32 - 45	50	500	
HA0100100120	6	37	13	5 - 12	100	1000	
HA0100100130	6	52	13	5 - 16	50	500	
HA0100100140	6	65	13	16 - 32	50	500	
HA0100100150	8	37	15	5 - 12	50	500	
HA0100100160 HA0100100170	8	55 65	15 15	5 - 16 16 - 32	50 50	500 500	
	L ANCHORS (B				E		
HA0200100010	4	21	8	0 - 4	200	2000	
HA0200100020	4	32	8	4 - 9	200	2000	
HA0200100030	4	38	8	9 - 16	100	1000	
HA0200100040	4	46	8	3 - 20	100	1000	
HA0200100050	4	46	8	15 - 21	100	1000	
HA0200100060	4	54	8	18 - 28	100	1000	
HA0200100070	4	59	8	32 - 38	100	1000	
HA0200100080	5	37	10	5 - 13	100	1000	
HA0200100090	5	52	10	5 - 18	100	1000	
HA0200100100	5	65	10	18 - 32	50	500	
HA0200100110	5	80	10	32 - 45	50	500	
HA0200100120	6	37	13	5 - 12	100	1000	
HA0200100130	6	52	13	5 - 16	50	500	
HA0200100140	6	65	13	16 - 32	50	500	
HA0200100150	8	37	15	5 - 12	50	500	
HA0100100160	8	55	15	5 - 16	50	500	
HA0100100170	8	65	15	16 - 32	50	500	







RUBBER NUTS





APPLICATIONS

- Lighting fixtures
- Shelving
- Machinery
- Trunking
- Cable conduits & wires

ANCHOR BAR MATERIAL

EPDM Neoprene Rubber

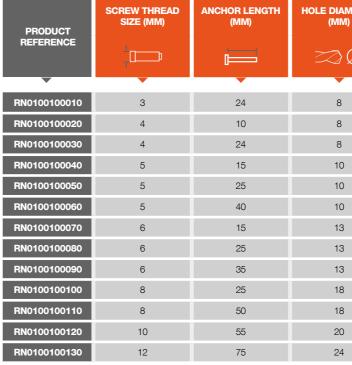
ADVANTAGE

- Fast & easy installation
- No stress to base material
- Resistant to vibration and corrosion
- Tolerant to small anchor spacing
- Applicable in thin base materials

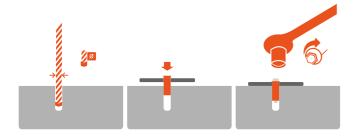
BASE MATERIAL

PLYWOOD

LIGHTWEIGHT STANDARD STANDARD



INSTALLATION DRAWINGS







/IETER)	MIN WALL THICKNESS (MM)	MAX WALL THICKNESS (MM)	BULK PACKING
Ø			
	6	14	6000
	0	2	12000
	6	14	6000
	0	2	7500
	6	14	3600
	19	26	2400
	0	2	4500
	3	13	2400
	13	23	1500
	6	15	1350
	25	35	600
	25	35	450
	33	45	360



METAL PICTURE HOOK

(ZAMAC ALLOY)



PRODUCT	ANCHOR DIAMETER	ANCHOR LENGTH	HEAD DIAMETER
REFERENCE	; >		\bigcirc
MP0100100010	?	28	13
MP0100100020	?	28	13

APPLICATIONS

- Pictures frames
- Mirrors

ADVANTAGE

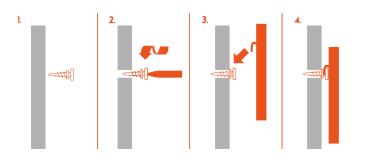
No requirement for pre-drilling

ANCHOR BAR MATERIAL

Zamac Alloy



INSTALLATION DRAWINGS



BASE MATERIAL



74





PHILLIPS DRIVER	HEAD FINISH	BOX PACKING	CARTON PACKING
\bigotimes_{\top}^{\bot}	0	Ŷ	ê
#2	BZP	100	1000
#2	white	100	1000



SPRING TOGGLES

(WHITE ZINC PLATED)

5

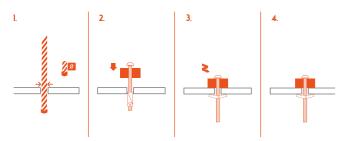
APPLICATIONS

- Installation
- Suspended Ceiling Hangers
- Lighting
- Fire resistant cabling

ANCHOR BAR MATERIAL

Carbon Steel - white zinc plating

INSTALLATION DRAWINGS



ADVANTAGE

- Adjustable for various wall thicknesses
- Fast and easy instalation and removal
- Non-flamable fixing

BASE MATERIAL



PRODUCT	ANCHOR DIAMETER	ANCHOR LENGTH	DRILL DIAMETER	
REFERENCE			ZØ	
	•	•		
SP0100100010	3	50	10	
SP0100100020	3	75	10	
SP0100100030	3	100	10	
SP0100100040	5	50	13	
SP0100100050	5	75	13	
SP0100100060	5	100	13	
SP0100100070	5	125	13	
SP0100100080	5	150	13	
SP0100100090	6	75	16	
SP0100100100	6	100	16	
SP0100100110	6	125	16	
SP0100100120	6	150	16	
SP0100100130	8	75	22	
SP0100100140	8	100	22	
SP0100100150	8	125	22	
SP0100100160	8	150	22	
SP0100100170	10	75	22	
SP0100100180	10	100	22	
SP0100100190	10	125	22	
SP0100100200	10	150	22	

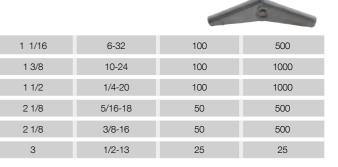
SPRING TOGGLE (WING ONLY)

ST0100200010	1/8	3/8
ST0100200020	3/16	1/2
ST0100200030	1/4	5/8
ST0100200040	5/16	7/8
ST0100200050	3/8	7/8
ST0100200060	1/2	1 1/4



anchors

WING	THREAD SIZE (UNC)	BOX PACKING	CARTON PACKING
		•	•
27	100	500	500
27	100	500	500
27	100	500	500
35	50	250	250
35	50	250	250
35	50	200	200
35	50	200	200
35	50	200	200
38	50	200	200
38	50	200	200
38	50	200	200
38	50	200	200
54	25	100	100
54	25	100	100
54	25	100	100
54	25	100	100
54	25	100	100
54	25	100	100
54	25	100	100
54	25	100	100



PLASTIC TOGGLE ANCHORS

(ENGINEERED PLASTIC)





APPLICATIONS

- Electric Boxes
- Bathroom Accessories
- Smoke detectors and alarms
- Shelving
- Lighting Fixtures
- Mirrors

ANCHOR BAR MATERIAL

engineered plastic

BASE MATERIAL



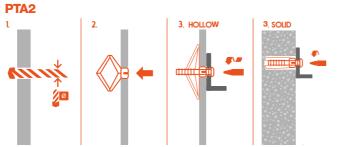
ADVANTAGE

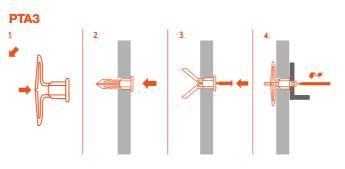
1

- Pre-installation without screw
- Flush screw head against fixture
- One piece anchor for simple setting

INSTALLATION DRAWINGS

PTA1 **^** Øø 个







PRODUCT	ANCHOR DIAMETER	WALL THICKNESS	DRILL DIAMETER	MIN. SCREW LENGTH	SCREW SIZE RANGE	BOX PACKING	CARTON PACKING
REFERENCE	‡ D ®		ZØ	-'(<u>,,,,,,,,</u>)			
•	•	•	•		•	•	
PLASTIC TOGO	GLE ANCHOR	- PTA1					
TG0100100010	Short	10 to 12	10	32	6 - 8	100	1000
TG0100100020	Medium	12 to 16	10	32	6 - 8	100	1000
TG0100100030	Long	16 to 19	10	40	6 - 8	100	1000
PLASTIC TOGO	GLE ANCHOR	- PTA 2					
TG0100200010	Mini	3	8	25	6-12	100	1000
TG0100200020	Short	10	8	32	6-12	100	1000
TG0100200030	Medium	13	8	32	6-12	100	1000
TG0100200040	Long	16	8	38	6-12	100	1000
TG0100200050	Extra long	19	8	45	6-12	100	1000
TG0100200060	Super long	25	8	50	6-12	100	1000

TG0100200010	Mini	3	8
TG0100200020	Short	10	8
TG0100200030	Medium	13	8
TG0100200040	Long	16	8
TG0100200050	Extra long	19	8
TG0100200060	Super long	25	8

PLASTIC TOGGLE ANCHOR - PTA3

TG0100300010	Short	3 to 6	8
TG0100300020	Medium	10 to 13	8
TG0100300030	Long	16 to 19	8



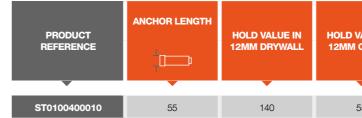


54	6-14	100	1000
54	6-14	100	1000
54	6-14	100	1000

SELF-DRILLING STRAP TOGGLE HTPA

(ENGINEERED PLASTIC AND CARBON STEEL)





APPLICATIONS

- Heavy Duty Cavity Wall Anchor
- Ballustrade
- Kitchen cabinets.

ADVANTAGE

- Fully adjustable for different wall thickness
- Re-usable
- Quick and easy installation
- No setting required
- Support up to 30kg

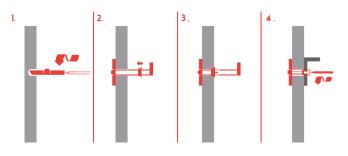
ANCHOR BAR MATERIALS

Engineered Plastic with a Carbon Steel Wing

BASE MATERIAL



INSTALLATION DRAWINGS



COMES WITH (PER INNER):









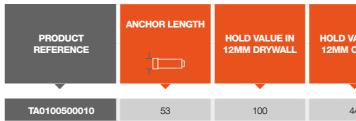
ALUE IN	SCREW LENGTH	BOX PACKING	CARTON PACKING
CEILING	-1 ₀ 1		
55	60	25	300



HD TOGGLE ANCHORS

(CARBON STEEL AND NYLON)





APPLICATIONS

- Heavy Duty Cavity Wall Anchor
- Ballustrade
- Kitchen cabinets

ADVANTAGE

- Self Drilling anchor
- Quick and Easy installation
- Various plasterboard thicknesses
- Wider fixing hold

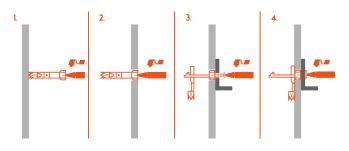
BASE MATERIAL

PLASTERBOARD

ANCHOR BAR MATERIALS

Carbon Steel - white zinc plating Engineered Nylon

INSTALLATION DRAWINGS









ALUE IN	SCREW LENGTH	BOX PACKING	CARTON PACKING
CEILING	-1 ₀		
14	6 x 50	100	800



PIPE CLIPS (POLYPROPYLENE)

(carbon steel and nylon)

APPLICATIONS

• Fixing pipe of various sizes



ADVANTAGE

- Interlocking clip function
- Maximum safe working temperature 65°
- Only single central screw required for Double Clip

ANCHOR BAR MATERIALS

Carbon Steel - white zinc plating Engineered Nylon

BASE MATERIAL





PRODUCT REFERENCE	DRILL DIAMETER (MM) CONTRACTOR	SCREW SIZE RANGE NO.	SPACING BETWEEN CLIPS (MM)	PIPE SIZE (MM)	POLYBAG PACKING	
HS0100100010	4	No.6	500	10	100	1000
HS0100100020	4	No.6	500	12	100	1000
HS0100100030	5.5	No.10	500	12.7 - 14	100	1000
HS0100100040	5.5	No.10	500	15	100	1000
HS0100100050	5.5	No.10	500	15 - 16	100	1000
HS0100100060	5.5	No.10	500	18	100	1000
HS0100100070	5.5	No.10	500	19 - 21	100	1000
HS0100100080	5.5	No.10	500	22	100	1000
HS0100100090	5.5	No.10	500	25 - 27.4	100	1000
HS0100100100	5.5	No.10	500	28 - 28.6	50	500
HS0100100110	6	No.10	500	32 - 35	50	500
						1)

HINGED PIPE CLIPS - DOUBLE

HD0100100010	4	No.6	500	10	50	500
HD0100100020	5.5	No.10	500	15	50	500
HD0100100030	5.5	No.10	500	22	50	500







anchors

CABLE CLIPS





APPLICATIONS

Fixing Cables

ADVANTAGE

- Simple fixing for running cables alonf wallsOne hit fixing
- Colour coded

ANCHOR MATERIALS

Zinc coated and hardened (Nail) High quality platic (Clip)

BASE MATERIAL



PLASTERBOARD

PRODUCT REFERENCE - WHITE	PRODUCT REFERENCE - BLACK	PRODUCT REFERENCE - BROWN	PRODUCT REFERENCE - RED	PRODUCT REFERENCE - GREY	CABLE CLIP (MM)	BOX PACKING	
ROUND CAB	ELE CLIPS						
RW0100100010	RB0100100010	RN0100100010	RR0100100010	RG0100100010	3.5	100	43000
RW0100100020	RB0100100020	RN0100100020	RR0100100020	RG0100100020	4.5	100	43000
RW0100100030	RB0100100030	RN0100100030	RR0100100030	RG0100100030	5	100	22000
RW0100100040	RB0100100040	RN0100100040	RR0100100040	RG0100100040	6	100	22000
RW0100100010	RB0100100050	RN0100100050	RR0100100050	RG0100100050	7	100	16000
RW0100100020	RB0100100060	RN0100100060	RR0100100060	RG0100100060	9	100	12000
RW0100100030	RB0100100070	RN0100100070	RR0100100070	RG0100100070	11	100	8000
RW0100100040	RB0100100080	RN0100100080	RR0100100080	RG0100100080	14	100	6000
FLAT TWIN A	AND EARTH C	ABLE CLIPS					
FW0100100010	FB0100100010	FN0100100010	FR0100100010	FG0100100010	1.0	100	22000
FW0100100020	FB0100100020	FN0100100020	FR0100100020	FG0100100020	1.5	100	16000
FW0100100030	FB0100100030	FN0100100030	FR0100100030	FG0100100030	2.5	100	12000
FW0100100040	FB0100100040	FN0100100040	FR0100100040	FG0100100040	4	100	12000
FW0100100050	FB0100100050	FN0100100050	FR0100100050	FG0100100050	6	100	12000
FW0100100060	FB0100100060	FN0100100060	FR0100100060	FG0100100060	10	100	6000

PRODUCT REFERENCE - WHITE	PRODUCT REFERENCE - BLACK	PRODUCT REFERENCE - BROWN	PRODUCT REFERENCE - RED	PRODUCT REFERENCE - GREY	CABLE CLIP (MM)	BOX PACKING	CARTON PACKING
ROUND CAB	LE CLIPS					h	
RW0100100010	RB0100100010	RN0100100010	RR0100100010	RG0100100010	3.5	100	43000
RW0100100020	RB0100100020	RN0100100020	RR0100100020	RG0100100020	4.5	100	43000
RW0100100030	RB0100100030	RN0100100030	RR0100100030	RG0100100030	5	100	22000
RW0100100040	RB0100100040	RN0100100040	RR0100100040	RG0100100040	6	100	22000
RW0100100010	RB0100100050	RN0100100050	RR0100100050	RG0100100050	7	100	16000
RW0100100020	RB0100100060	RN0100100060	RR0100100060	RG0100100060	9	100	12000
RW0100100030	RB0100100070	RN0100100070	RR0100100070	RG0100100070	11	100	8000
RW0100100040	RB0100100080	RN0100100080	RR0100100080	RG0100100080	14	100	6000
FLAT TWIN A	ND EARTH C	ABLE CLIPS					
FW0100100010	FB0100100010	FN0100100010	FR0100100010	FG0100100010	1.0	100	22000
FW0100100020	FB0100100020	FN0100100020	FR0100100020	FG0100100020	1.5	100	16000
FW0100100030	FB0100100030	FN0100100030	FR0100100030	FG0100100030	2.5	100	12000
FW0100100040	FB0100100040	FN0100100040	FR0100100040	FG0100100040	4	100	12000
FW0100100050	FB0100100050	FN0100100050	FR0100100050	FG0100100050	6	100	12000
FW0100100060	FB0100100060	FN0100100060	FR0100100060	FG0100100060	10	100	6000





87



PLASTIC PLUGS

(NYLON BODY, CARBON STEEL NAIL)



APPLICATIONS

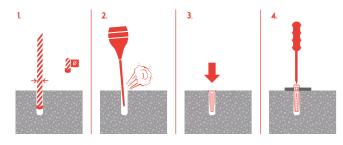
Recommended for light duty static applications, such as:

- Shelving / small brackets
- Pictures
- Lightweight cupboards
- Lighting

ANCHOR BAR MATERIALS

Polypropylene

INSTALLATION DRAWINGS



ADVANTAGE

- Consistent performance in stated base materials
- Resistant to corrosion

PRODUCT REFERENCE	ANCHOR DIAMETER (MM)	ANCHOR LENGTH (MM)	SCREW SIZE	COLOUR CODE	BOX PACKING
			ZØ	⊥ Ţ I	•
•	•	•	•		
PP0100100010	5	25	4 - 10	Yellow	1000
PP0100100020	6	34	6 - 12	Red	1000
PP0100100030	7	40	10 - 14	Brown	1000















PLASTIC SHIMS (ENGINEERED PLASTIC)

APPLICATIONS

- Levelling Door and Window Frames
- Packing out stud work
- Aligning battens and flooring

ADVANTAGES

- Colour coded for easy indentification
- Accurate levelling
- Tapered at front and back to assist stacking
- Resistant to weather changes •
- Waterproof

ANCHOR MATERIALS

Engineered Plastic

SHIM THICKNESS SH WIE (M PRODUCT REFERENCE (MM)

PLASTIC SHIMS U SHAPE - SMALL

Mixed pack comprises of: yellow x 150pcs, green x 125pcs, blue x 50pcs, red x 50pcs, brown x 50pcs, black x 50pcs & grey x 25pcs

1 /	1 /					
PS0100100010	Yellow	1	35	45	0.39	500
PP0100100020	Green	2	35	45	0.66	500
PS0100100030	Blue	3	35	45	0.87	500
PP0100100040	Red	4	35	45	1.21	500
PS0100100050	Brown	5	35	45	1.46	500
PP0100100060	Black	6	35	45	2.11	500
PS0100100070	Grey	10	35	45	2.69	500
PP0100100080	Mixed	Mixed	Mixed	Mixed	1.01	500

PLASTIC SHIMS U SHAPE - STANDARD

Mixed pack comprises of: yellow x 150pcs, green x 125pcs, blue x 50pcs, red x 50pcs, brown x 50pcs, black x 50pcs & grey x 25pcs

PS0100100010	Yellow	1	50	100	1.37	500	
PP0100100020	Green	2	50	100	2.20	500	
PS0100100030	Blue	3	50	100	2.41	500	
PP0100100040	Red	4	50	100	3.13	500	
PS0100100050	Brown	5	50	100	3.74	500	
PP0100100060	Black	6	50	100	5.17	500	
PS0100100070	Grey	10	50	100	5.95	500	
PP0100100080	Mixed	Mixed	Mixed	Mixed	2.74	500	







Sec. 10













anchors

Construction Anchors Co., LTD. 9F, No.21, Sec.3, Xinsheng S. Rd., Da'an Dist, Taipei City 106, Taiwan (R.O.C) Tel: 886-2-87978359 Fax: 886-2-87977905 email: amy@constructionanchors.tw www.constructionanchors.net