Refractory Anchors, Fibre & Hex Mesh

Antec have been designing and manufacturing refractory anchors for over 25 years and offer an extensive range of high quality standard and custom made refractory anchor products for a variety of linings and lining depths.

Our experience has led to the development of a unique range of clever anchoring systems that offer our clients a flexible, reliable and cost effective solution to secure refractory linings.

We offer full in-house design and manufacturing for fast turnarounds on custom anchor designs. Additionally we hold a comprehensive range of common anchor shapes and sizes in stock.

Anchor Types include:

- Y & V Anchors
- Welded & Twisted Anchors
- Split Tyne, Stud Welded and Rotalock Anchors
- Christmas Tree and Strap Anchors
- Ceramic Anchor Brick Clips
- Shelf & PV Anchors
- Shelf Brackets & Fabricated parts
- Ceramic Fibre Fixings

Material Selection

Alloys behave differently in different environments and temperatures. Therefore the choice of material is critical for the refractory anchor. Antec's experience can assist with determining the most appropriate materials for each individual application.

Antec supply anchors in a variety of material options including standard heat resisting alloys such as 304, 310 & 253 and can also supply specialist alloys such as 601 and DS in a variety of diameters.

For special requests please contact us for a custom quotation and lead time.

Anchor Spacing & Quantity Required

Anchor Spacing "P" (mm)	Anchor Quantity per m^2
150	45
175	33
200	25
225	20
250	16
300	11.5
350	8.5
450	5

Spacings given above relate to the typical anchor layouts shown below.

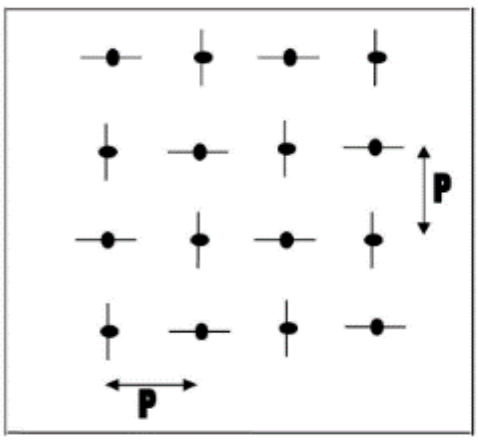


Fig. 1 – Square Pitch

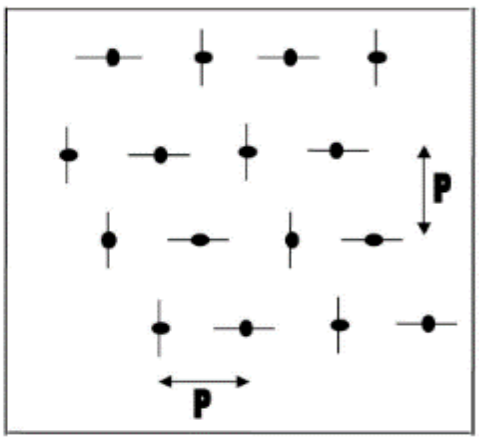
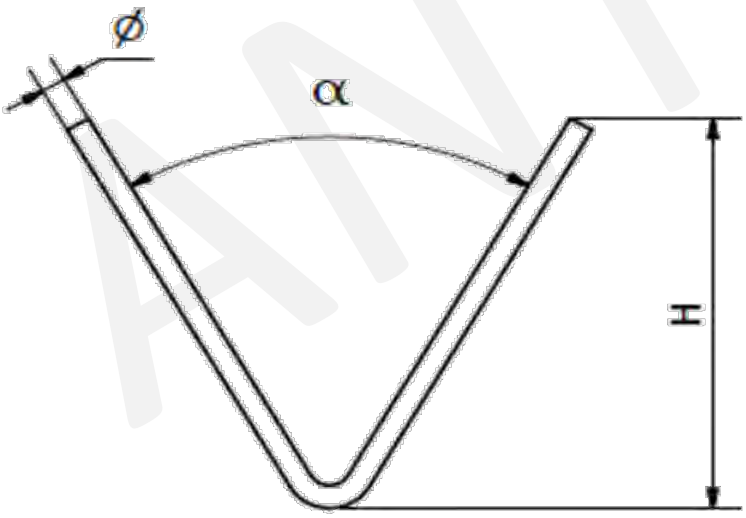


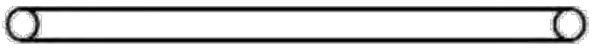
Fig. 2 – Staggered Pitch

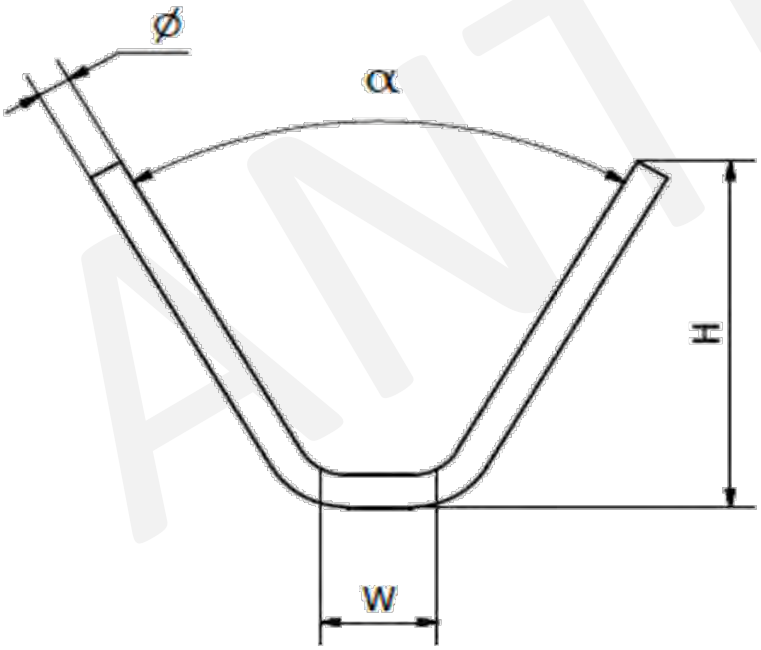
AN 01
V Anchor



All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

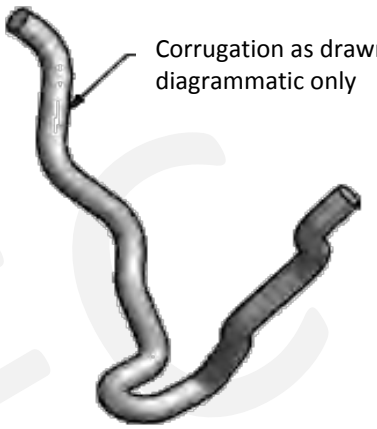
AN 02
VP Anchor

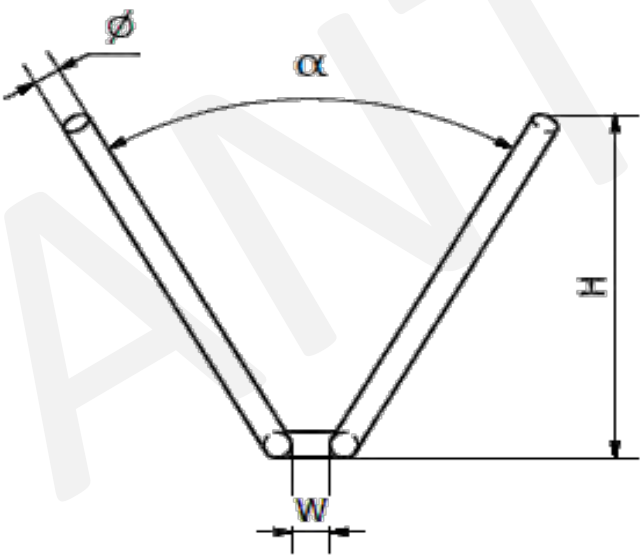


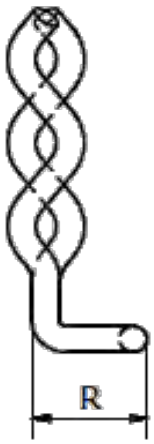


All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 03
VCL Anchor

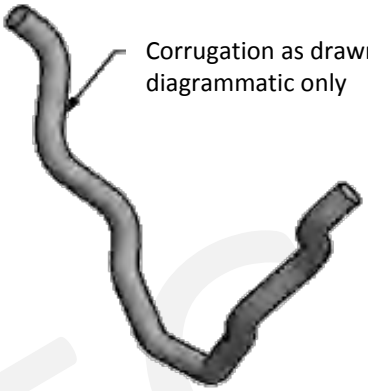


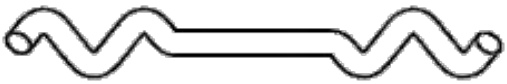


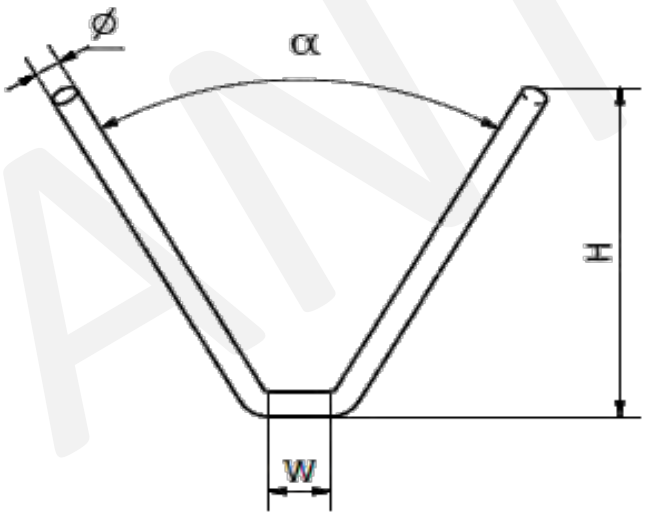


All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 04
VCP Anchor



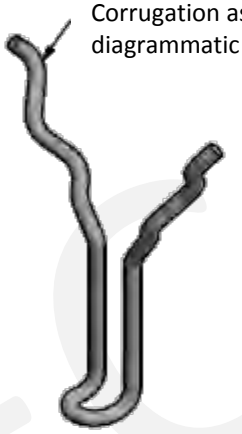


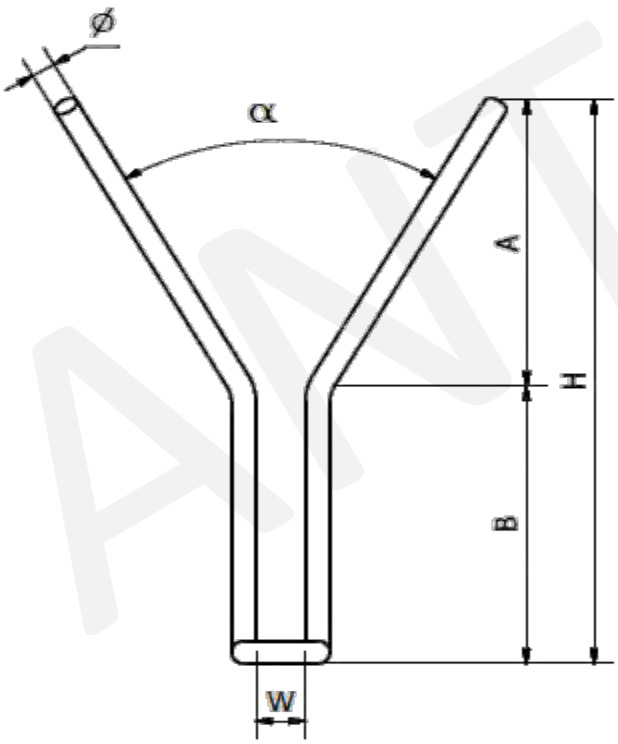


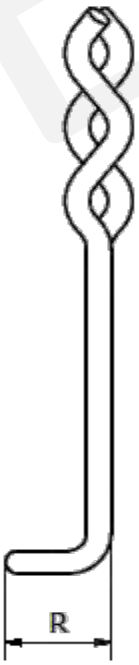
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 05
YCL Anchor

Corrugation as drawn is diagrammatic only

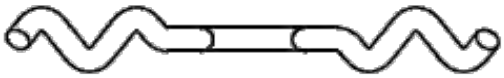


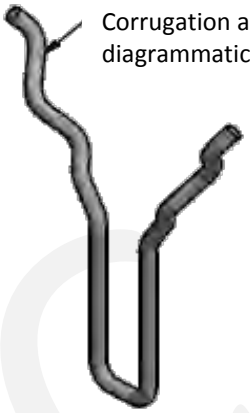




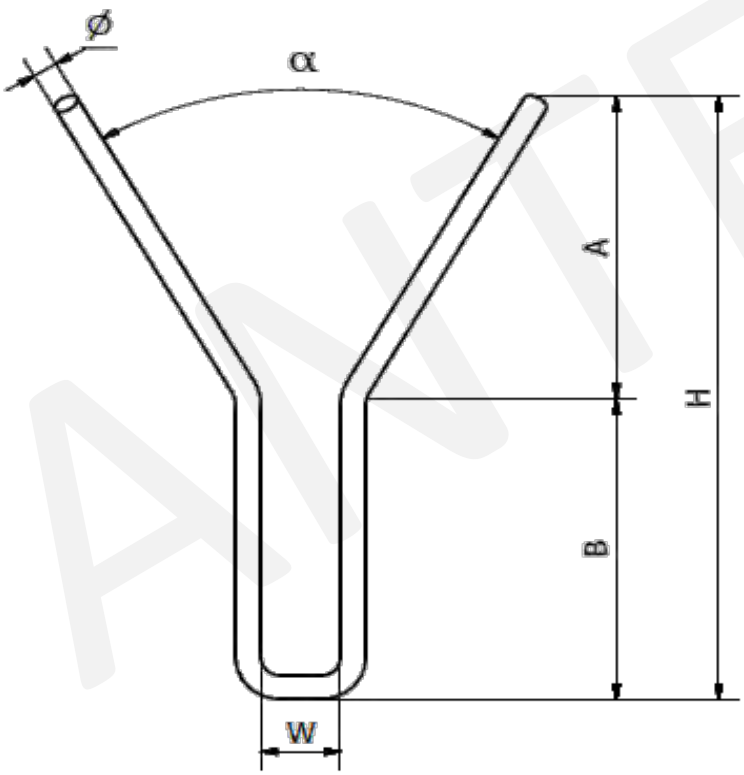
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

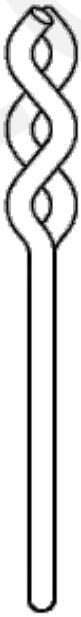
AN 06
YCP Anchor





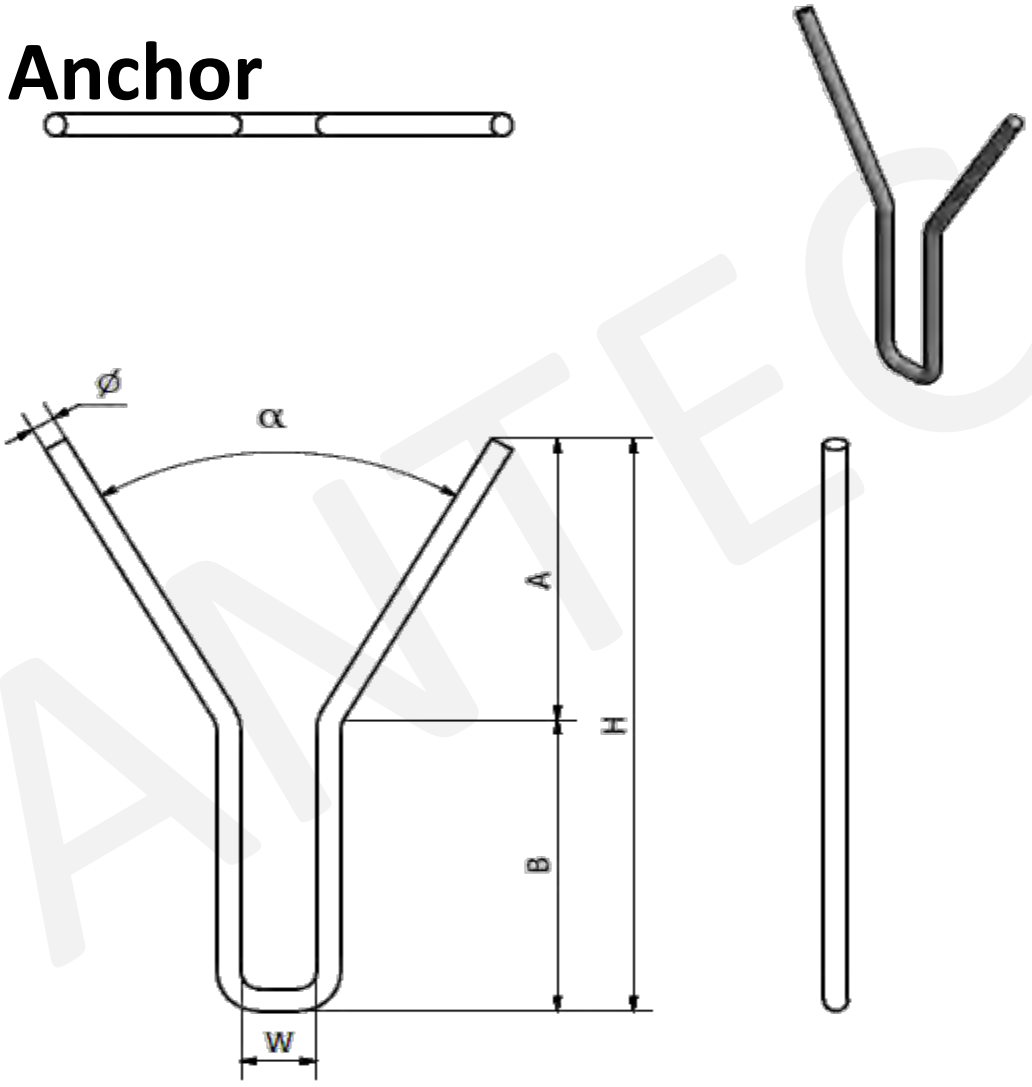
Corrugation as drawn is diagrammatic only





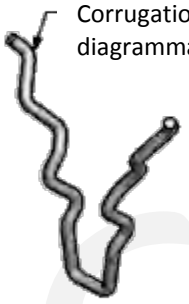
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3^{o} on Angular Dimensions
Unless otherwise noted

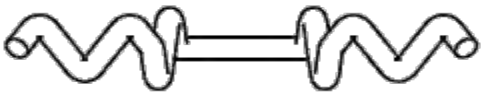
AN 07
YP Anchor

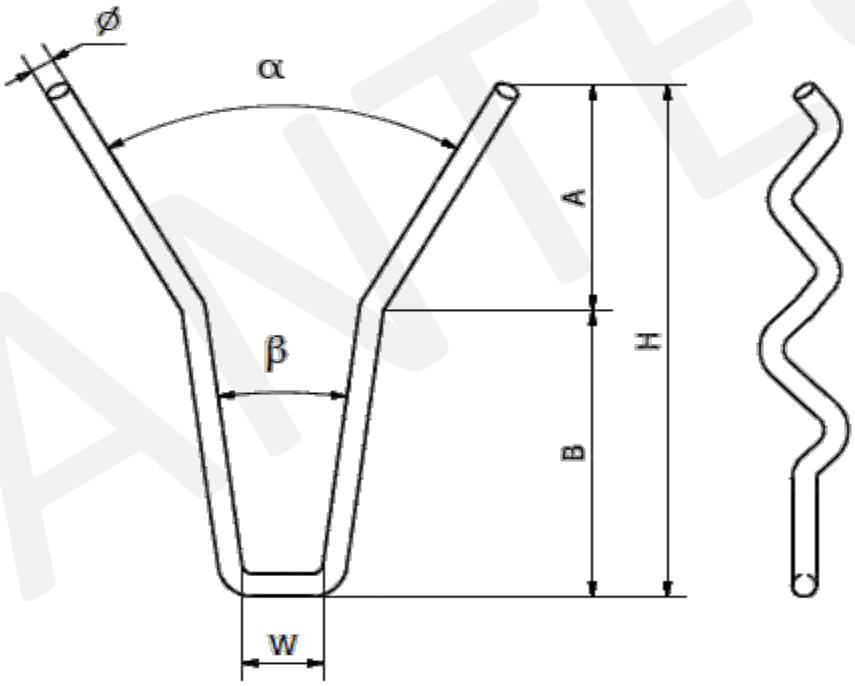


All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 08
FCY Anchor

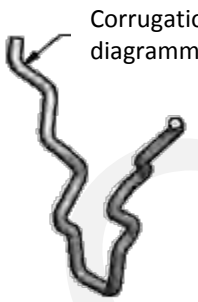


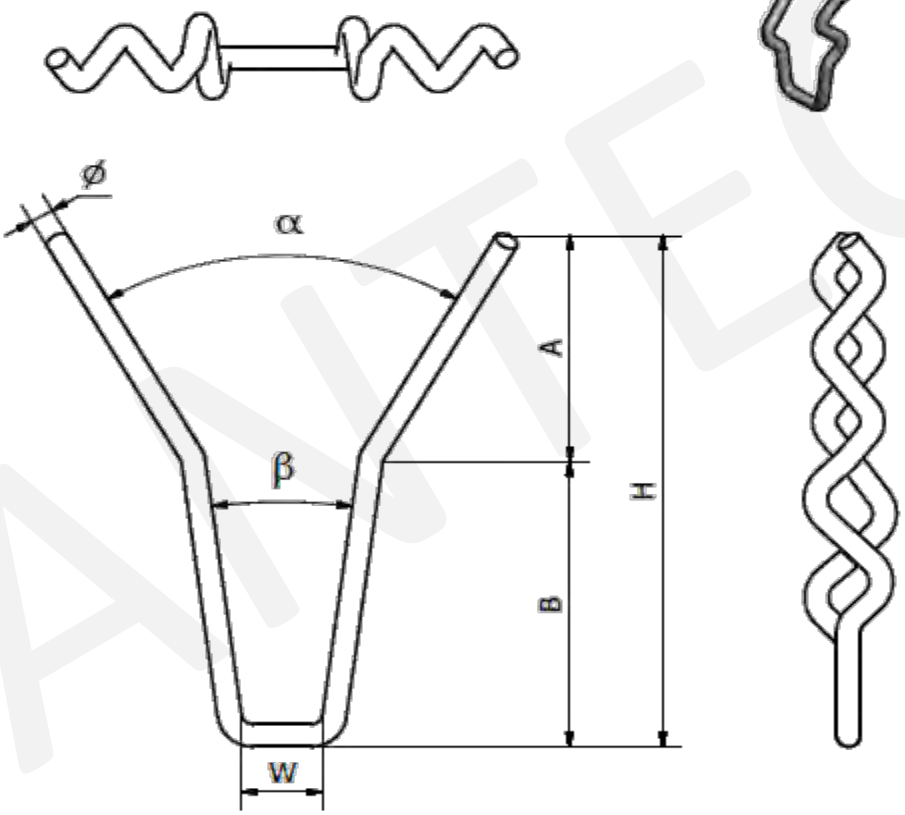




All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

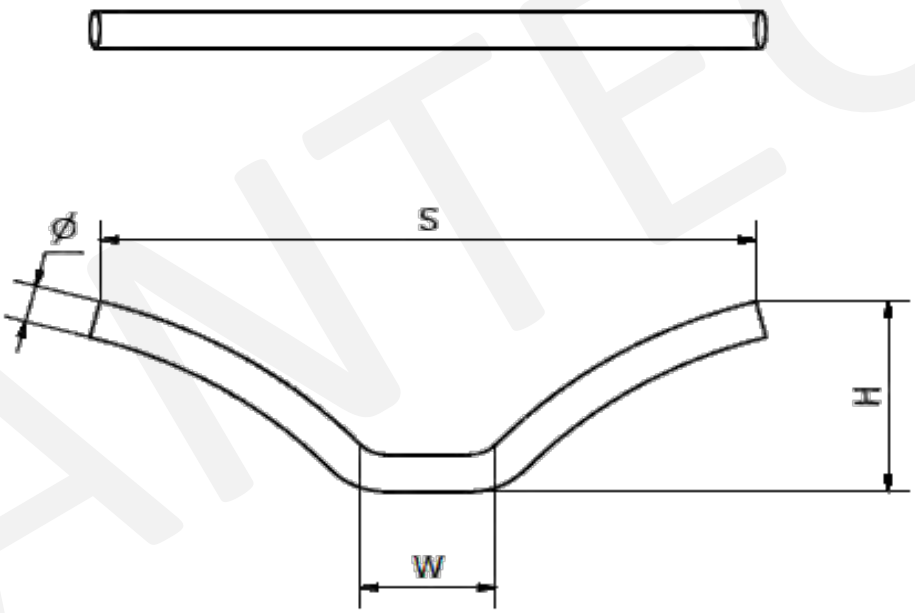
AN 08A
FCY Anchor





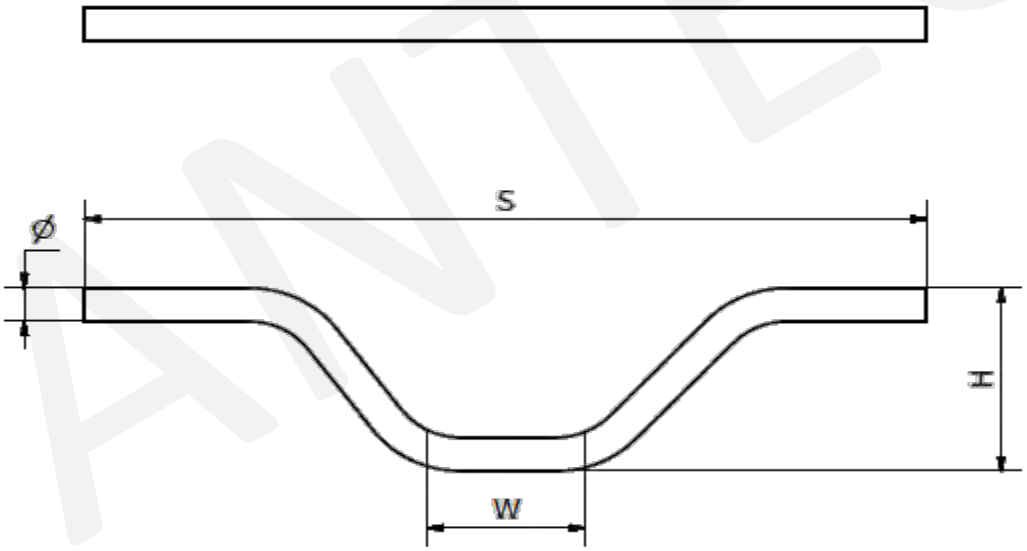
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 09
CH Anchor



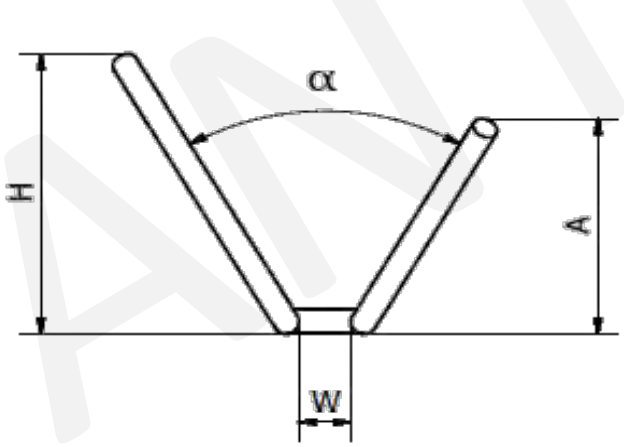
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted
H = 30 or above

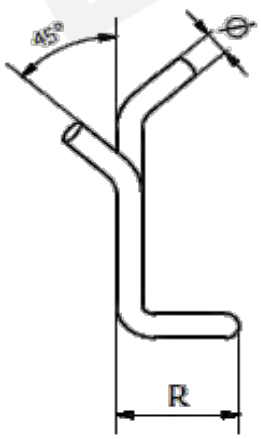
AN 10
LS Anchor



All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

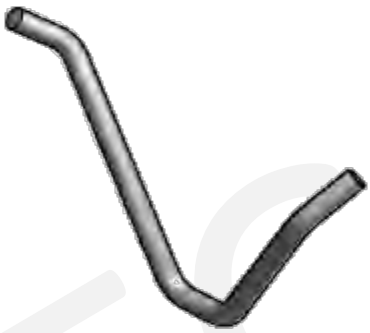
AN 11
WB Anchor

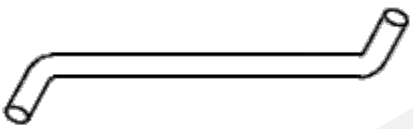


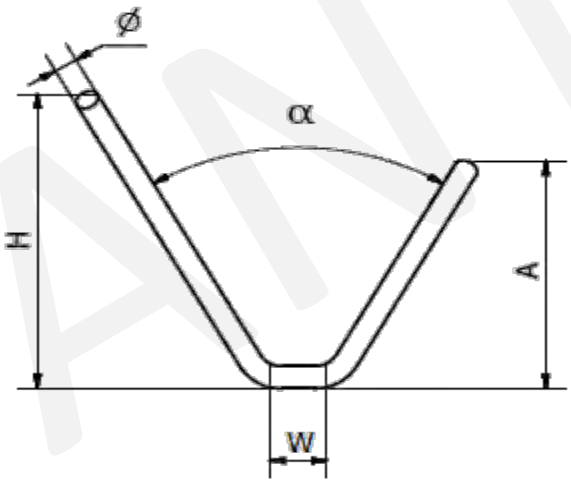


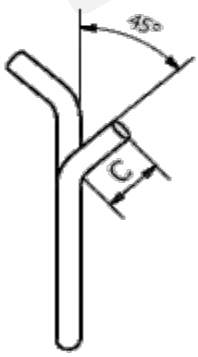
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 12
WO Anchor



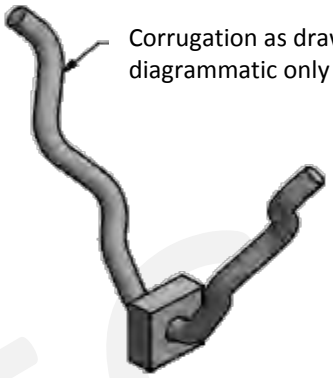




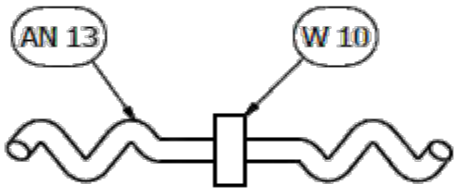


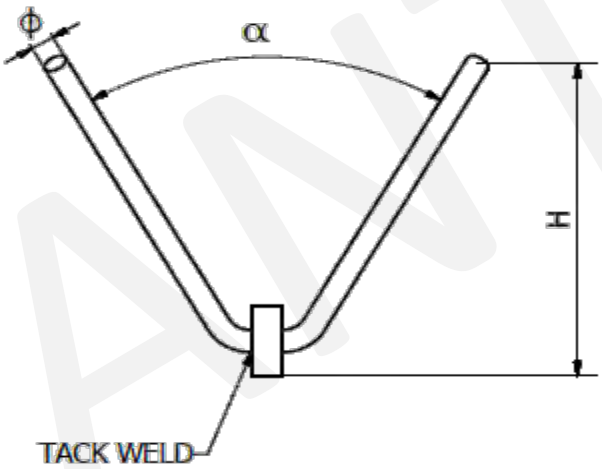
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

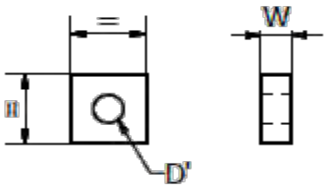
AN 13
VCPW Anchor



Corrugation as drawn is diagrammatic only



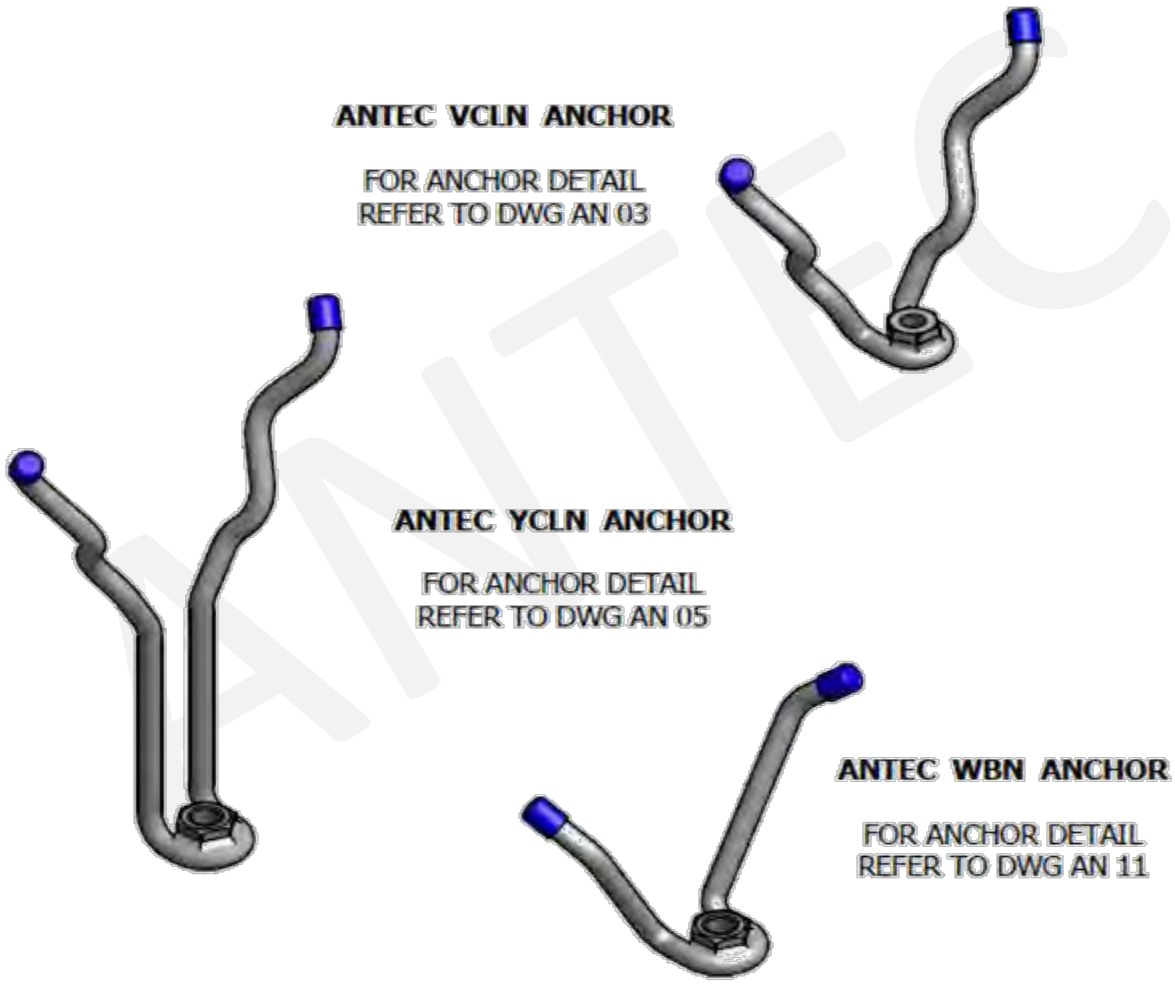




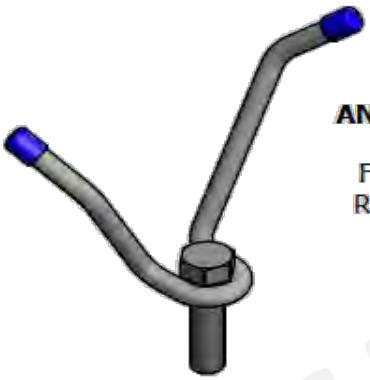
W 10
WASHER DETAIL

All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 14
Anchors & Nuts

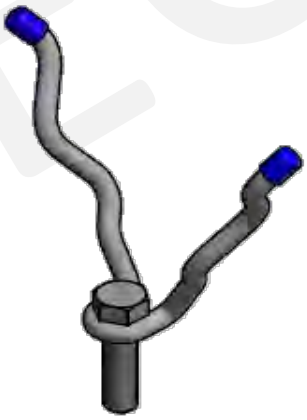


AN 14A
Anchors & Bolts



ANTEC WBB ANCHOR

FOR ANCHOR DETAIL
REFER TO DWG AN 11



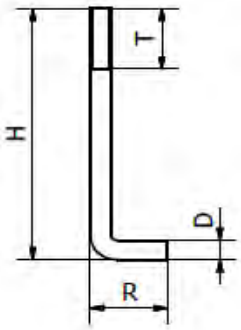
ANTEC VCLB ANCHOR

FOR ANCHOR DETAIL
REFER TO DWG AN 03

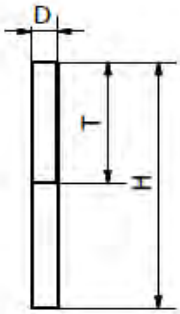
ANTEC YCLB ANCHOR

FOR ANCHOR DETAIL
REFER TO DWG AN 05

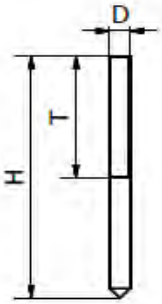
AN 15
Anchors Studs



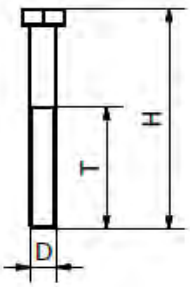
S1 STUD



S2 STUD



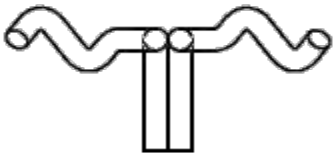
S3 STUD
(FOR STUD WELDING APPLICATIONS)



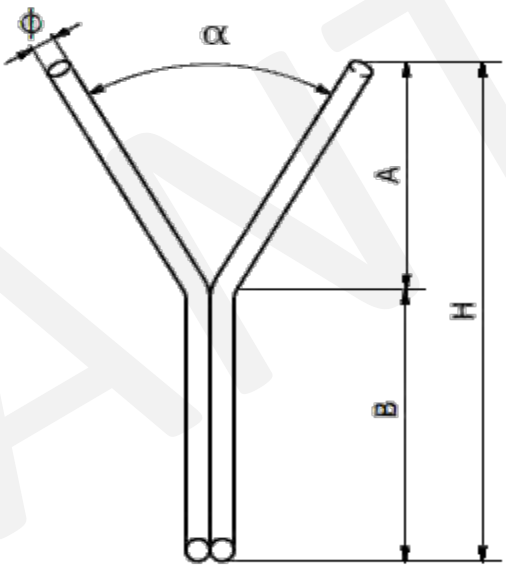
S4 STUD
(STANDARD SIZE AS AVAILABLE)

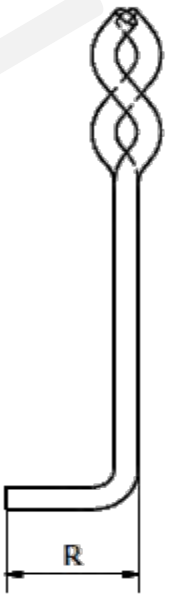
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3^{o} on Angular Dimensions
Unless otherwise noted

AN 16
YDX Anchor



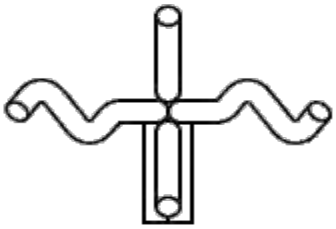
Corrugation as drawn is diagrammatic only



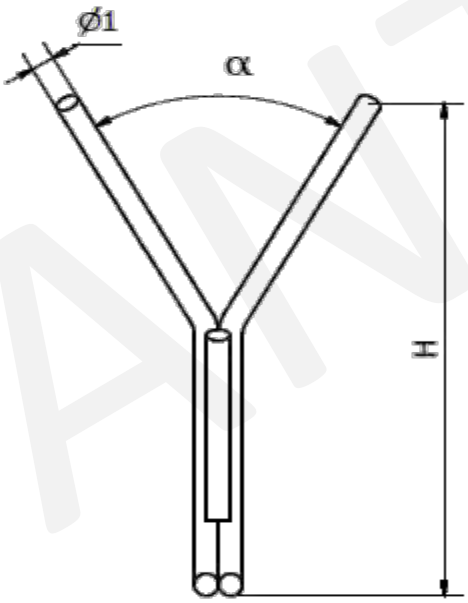


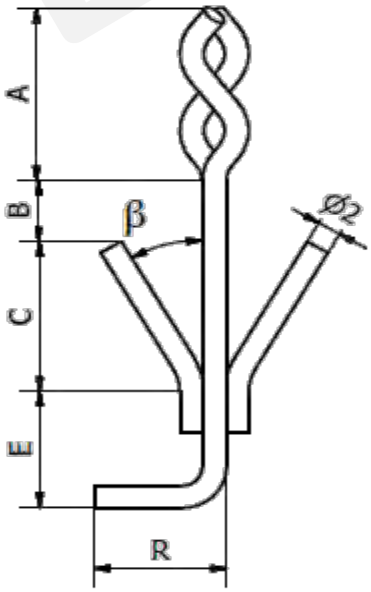
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 17
YD2X Anchor



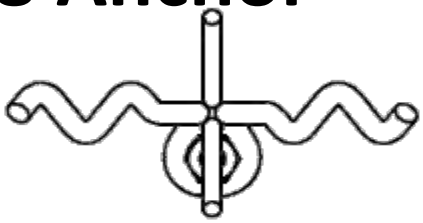
Corrugation as drawn is diagrammatic only



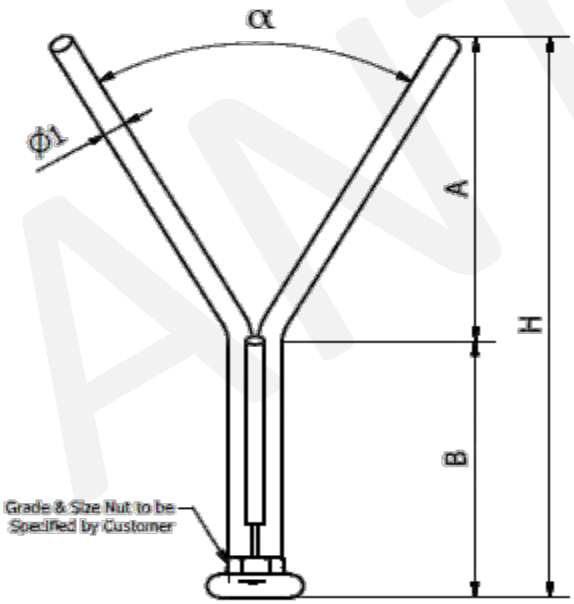


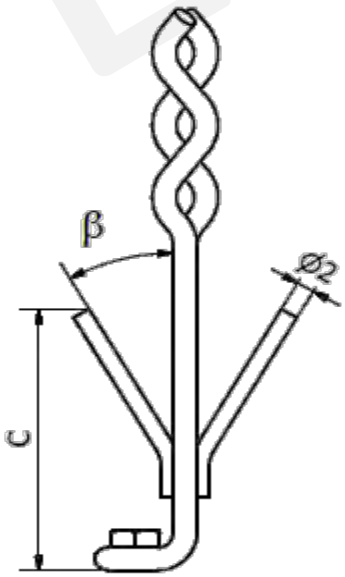
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 17A
QN8 Anchor



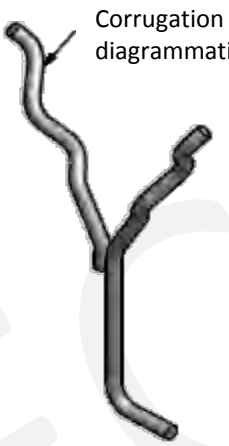
Corrugation as drawn is diagrammatic only



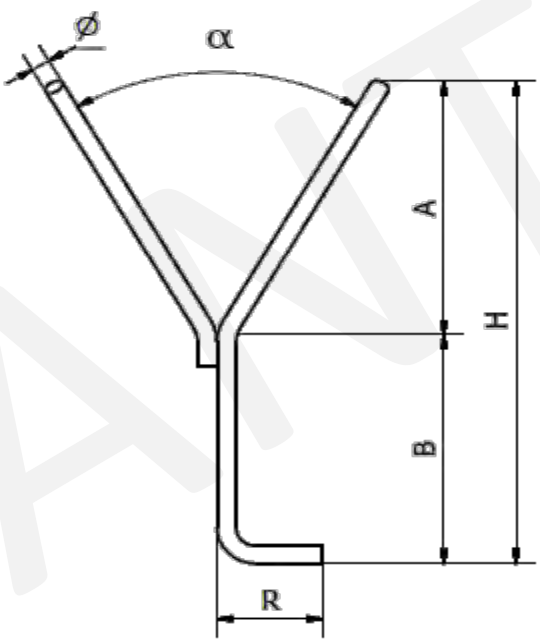


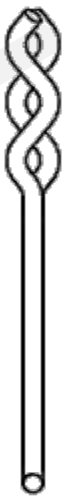
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 18
YX-C Anchor



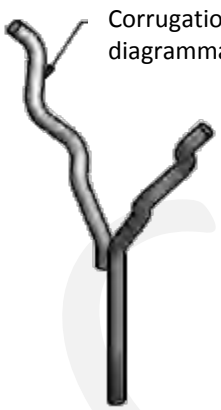
Corrugation as drawn is diagrammatic only





All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 18A
YX-CVCP Anchor (threaded)



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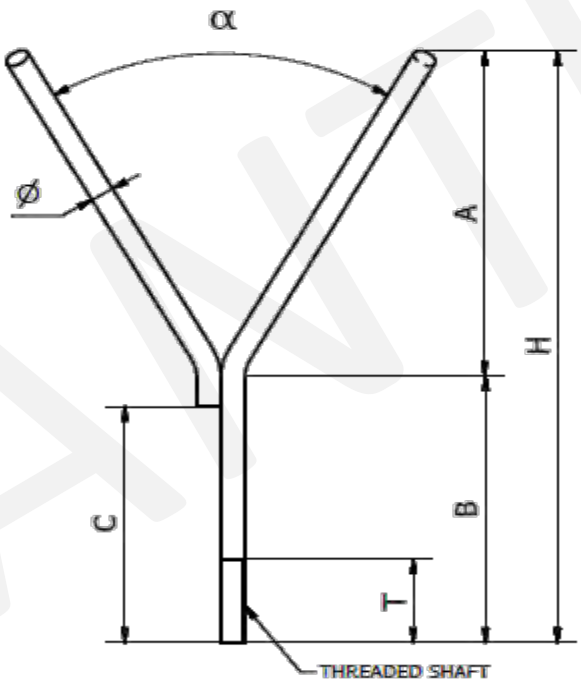
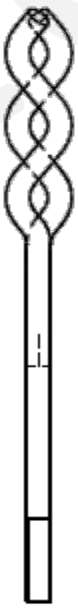
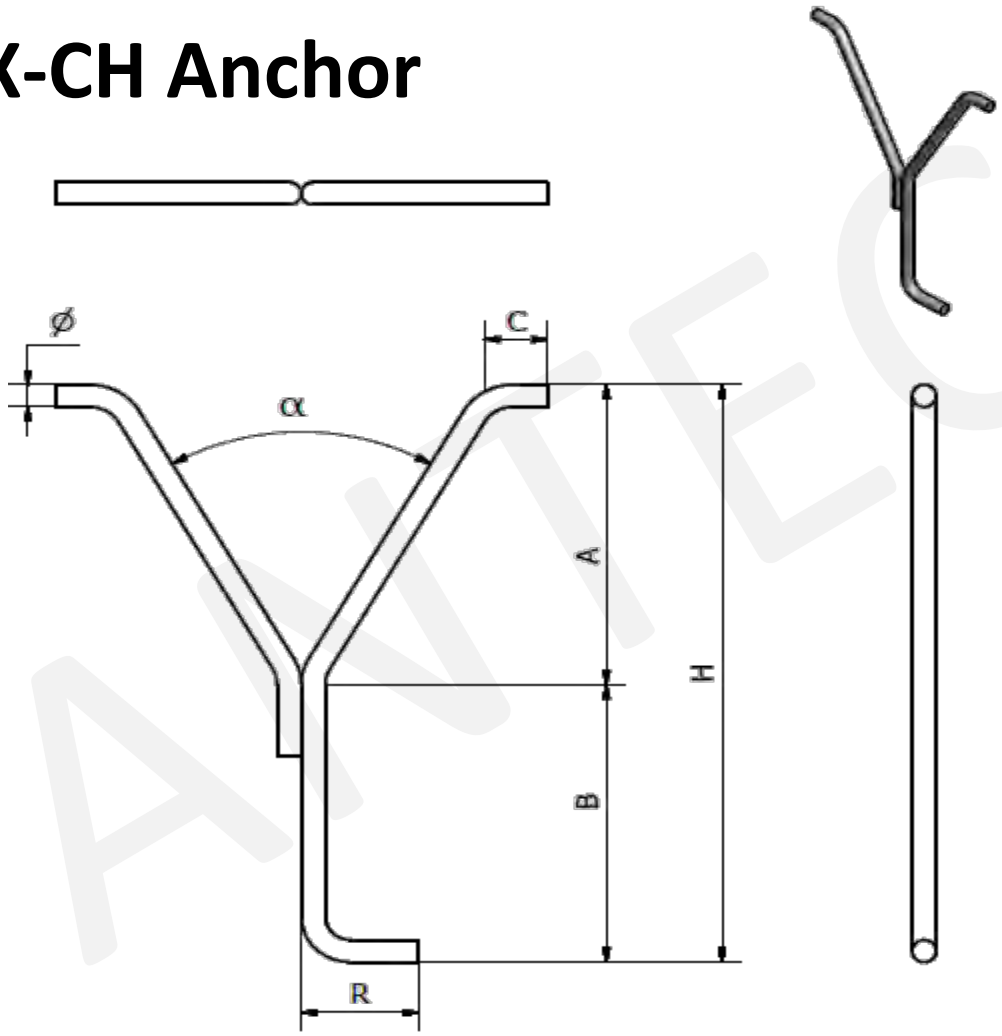




All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

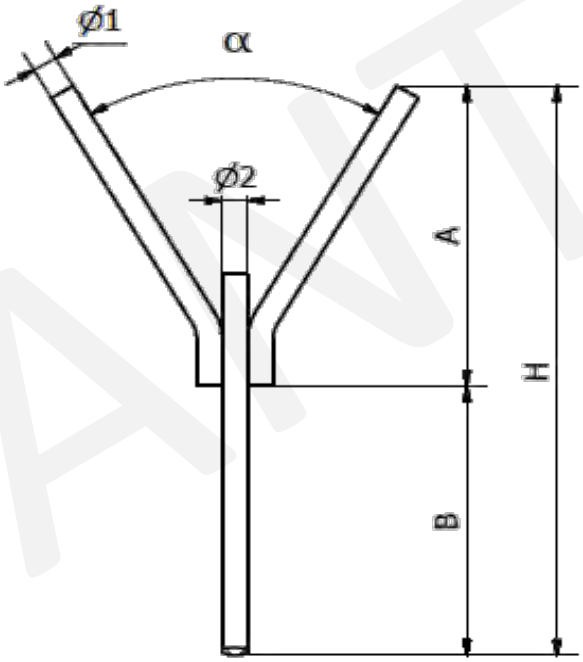
AN 19
YX-CH Anchor

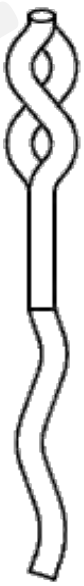


All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 20
Drive In Anchor

Corrugation as drawn is diagrammatic only

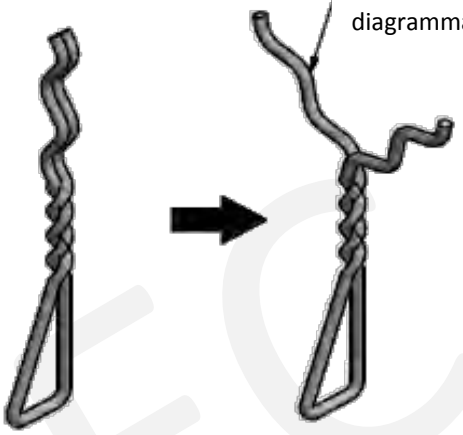


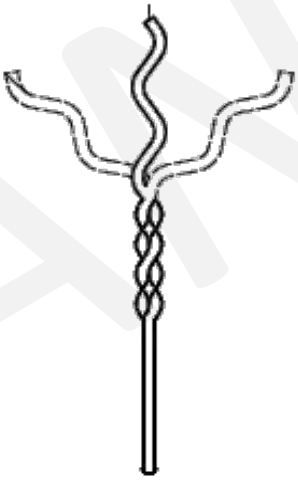


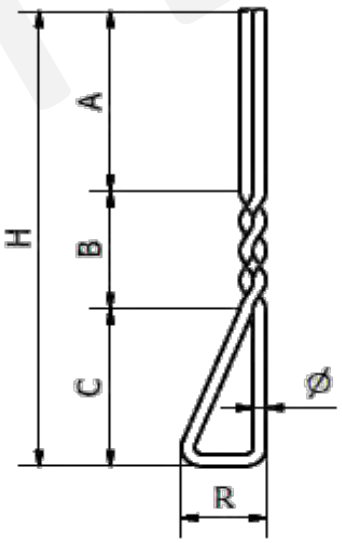
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 21
Twist Anchor

Corrugation as drawn is diagrammatic only



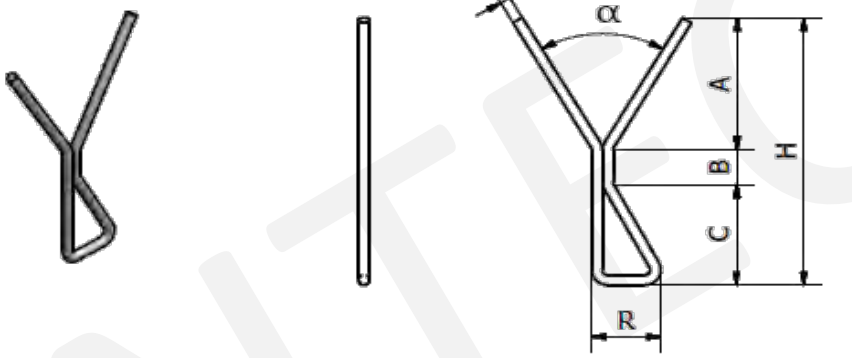




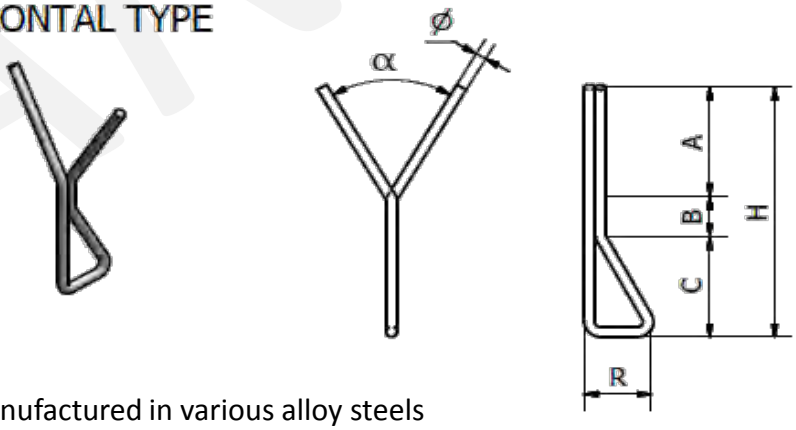
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 22
Triangular Base Anchor

VERTICAL TYPE

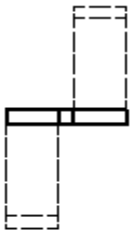


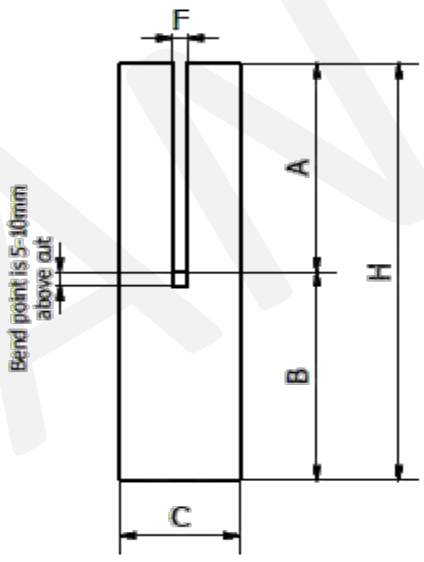
HORIZONTAL TYPE

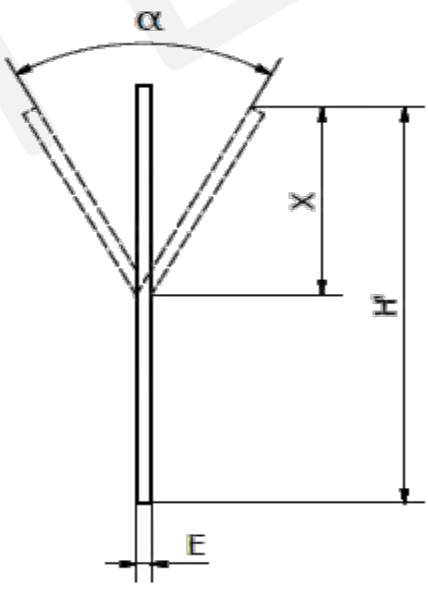


All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 24
Split Tyne Anchor



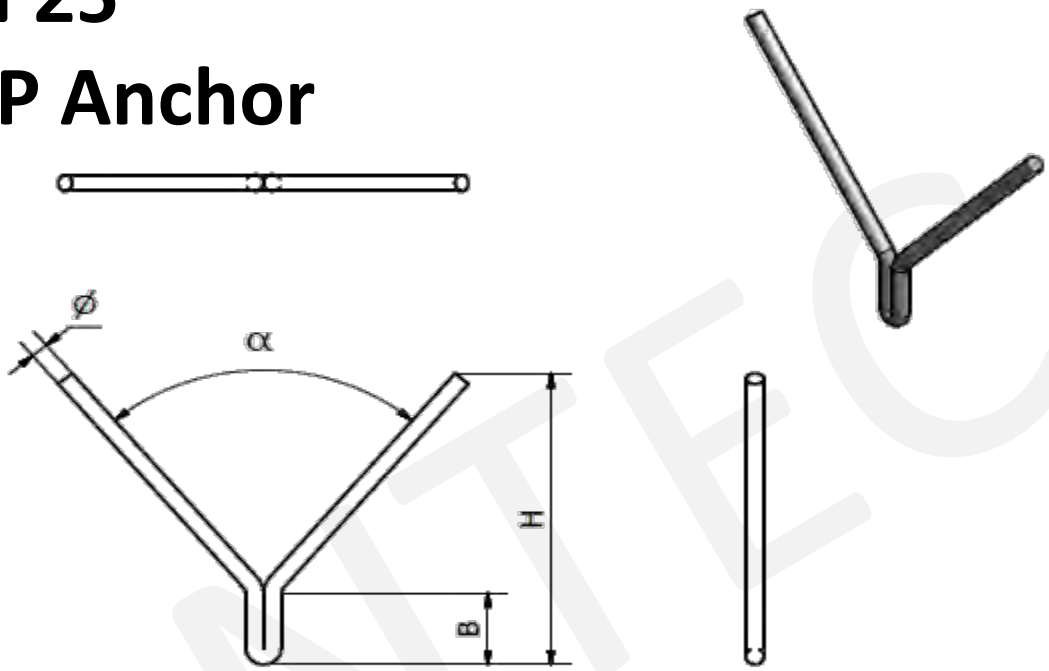




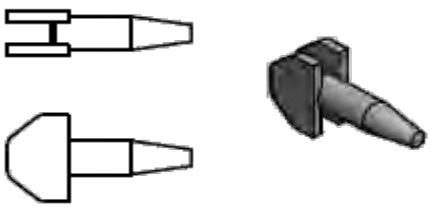
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

F = min 5mm
A = max 100mm
E = max 5mm min 3mm
C = min 25mm

AN 25
SVP Anchor



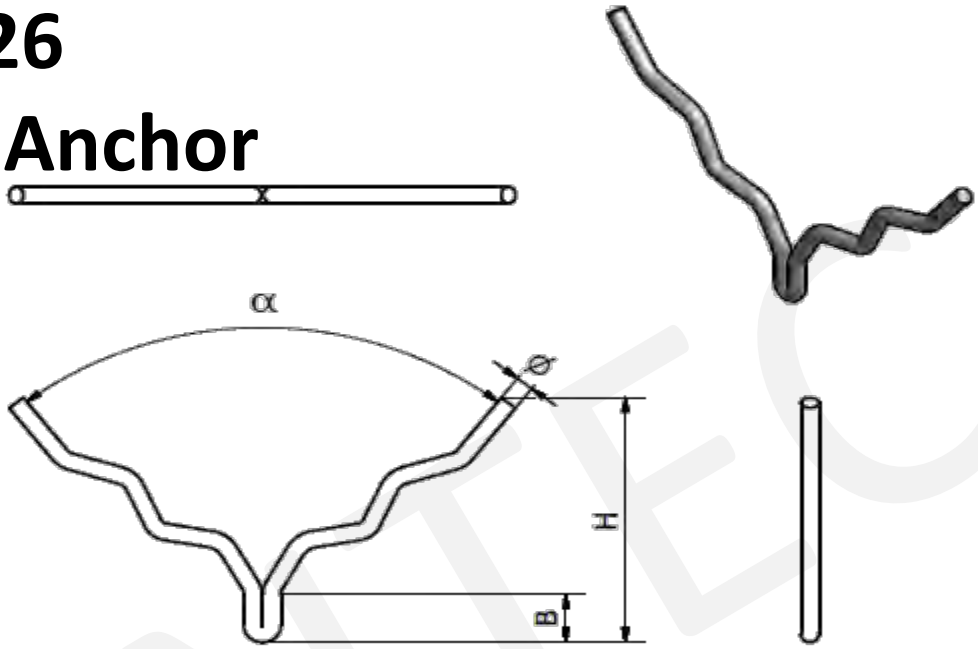
ARCS
(ARC SHIELD)



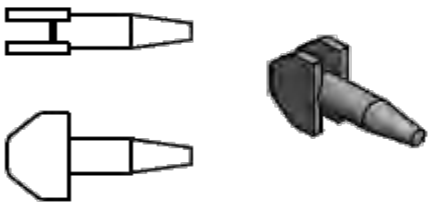
WC
(WELDING CHUCK)

All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3^{o} on Angular Dimensions
Unless otherwise noted

AN 26
SVC Anchor



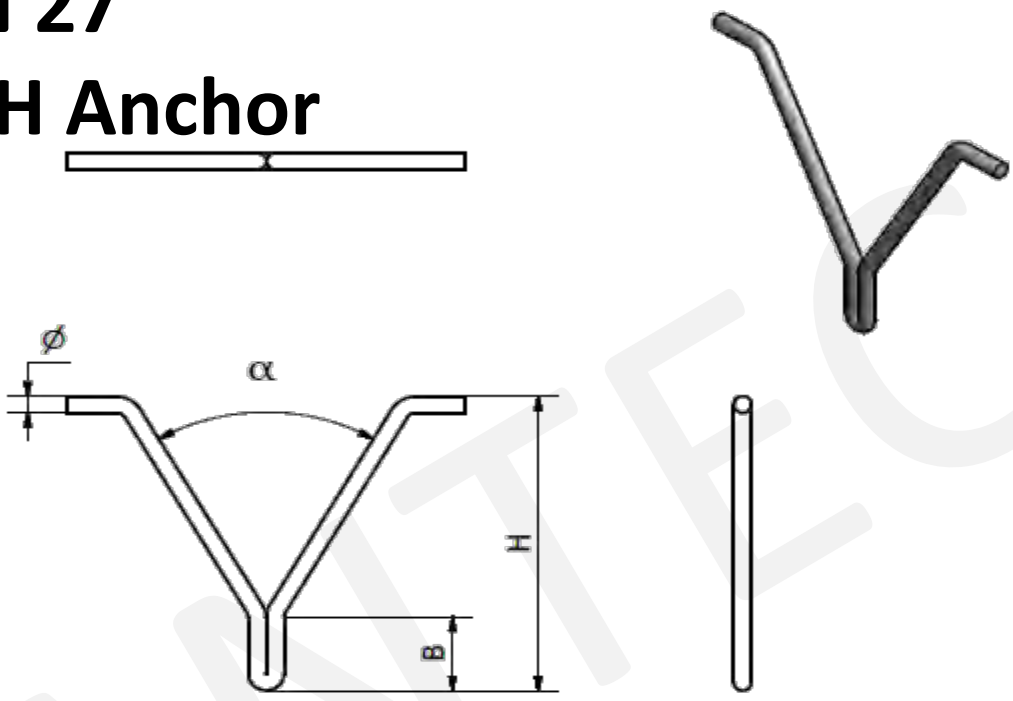
ARCS
(ARC SHIELD)



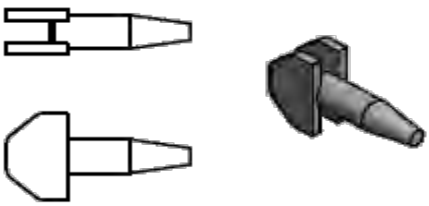
WC
(WELDING CHUCK)

All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3^{o} on Angular Dimensions
Unless otherwise noted

AN 27
SCH Anchor



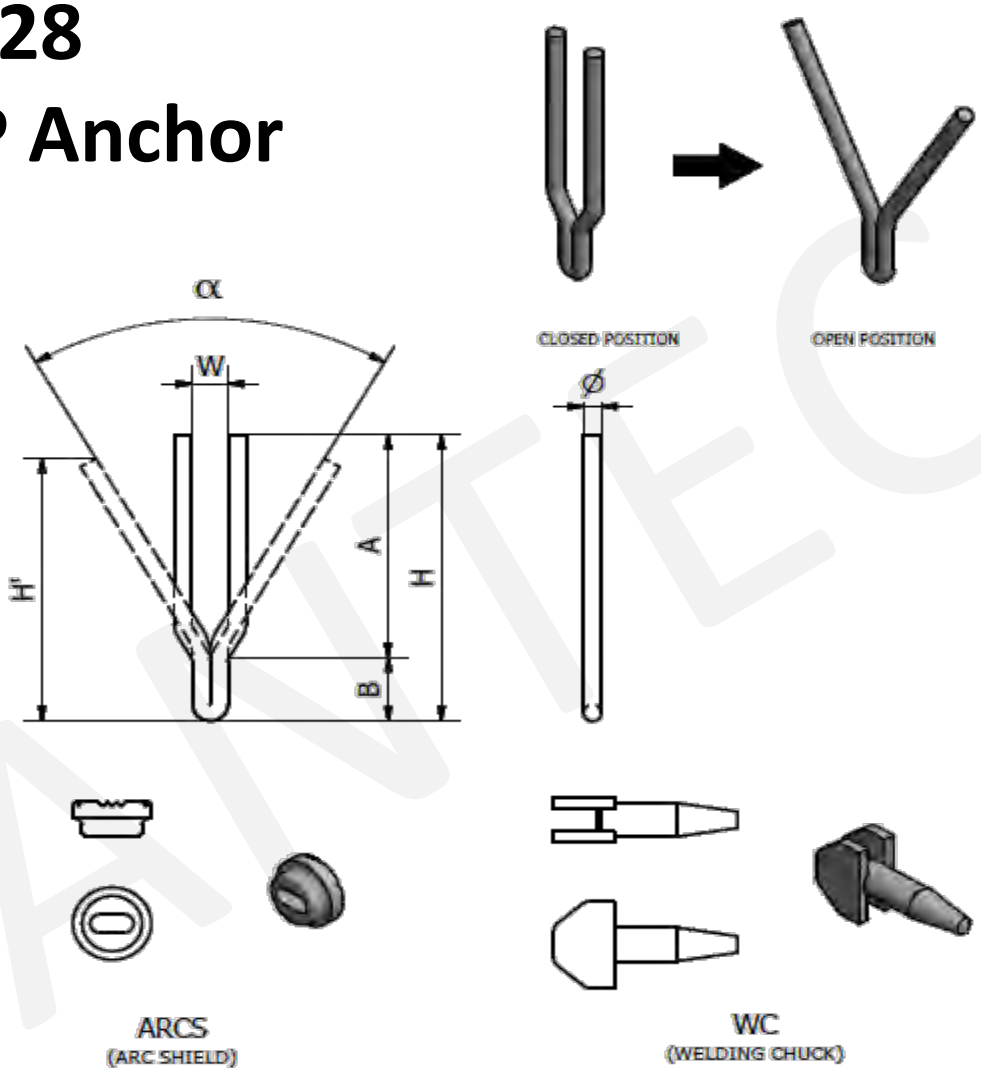
ARCS
(ARC SHIELD)



WC
(WELDING CHUCK)

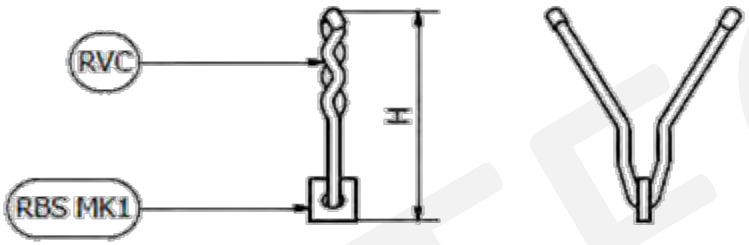
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3^{o} on Angular Dimensions
Unless otherwise noted

AN 28
SHP Anchor

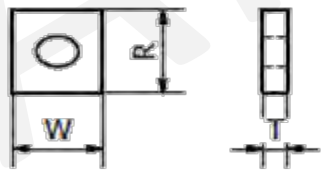


All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

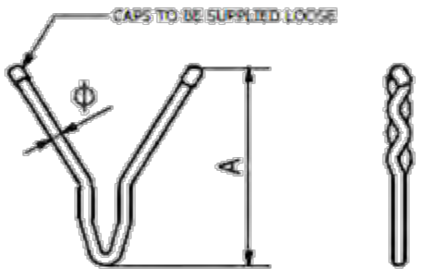
AN 29 A
Rotalock System Mark I Type



ASSEMBLED MARK 1 ROTALOCK ANCHOR SYSTEM



RBS (MARK 1)

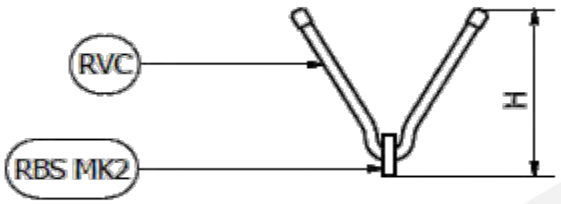


RVC (MARK 1)

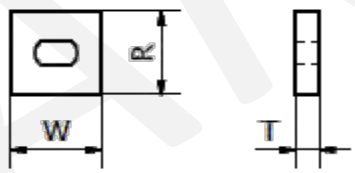
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

Edges rounded on RBS if manufactured in carbon steel

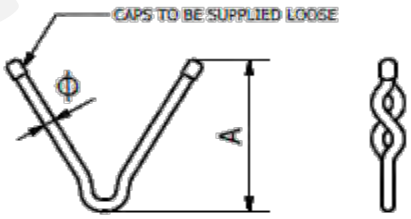
AN 29B
Rotalock System Mark II Type



ASSEMBLED MARK 2 EXTENDED BASE ROTALOCK ANCHOR



RBS (MARK 2)



RVC (MARK 2)

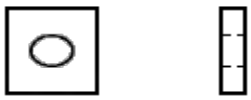
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

Edges rounded on RBS if manufactured in carbon steel

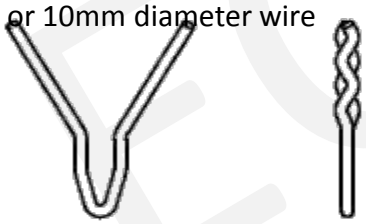
AN 29C
Rotalock System

The two piece ANTEC rotalock anchor system has unique technical, commercial and safety advantages. The rotalock anchor system consists of two separate parts:

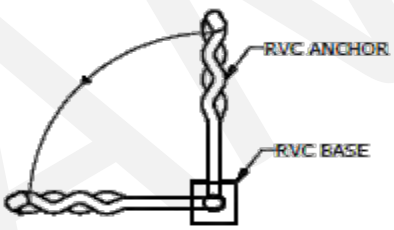
1. A base piece (RBS) manufactured from flat bar having a precise shaped punched hole
2. A Vee anchor (RVC) manufactured in either 8mm or 10mm diameter wire

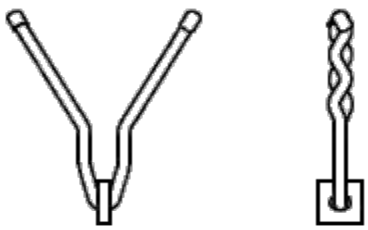


ANTEC RBS
(STANDARD BASE)



ANTEC RVC ANCHOR





Assembly:

1. Base is welded to furnace shell
2. At the time of refractory installation the RVC anchor is horizontally threaded through the hold in the base
3. The RVC anchor is then rotated upwards to the vertical position and is held in place by interference fit

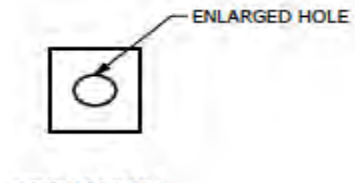
The shape of the RVC anchor and the size of the hole in the base has been calculated so that an interference fit bond occurs when the anchor top is rotated to the vertical position. There is no welding of the RVC anchor to the base. If the RVC anchor is rotated repeatedly from horizontal to vertical, the edges of the hole in the base will be increasingly deformed, reducing the tightness of the interference fit.

AN 29D
Rotalock Types Mark I & II

There are two variations of the rotalock systems. The both have identical principles.

ROTALOCK MARK I

The MARK I system has a larger hole in the RBS base. The larger hole allows clearance for a RVC Vee anchor with prefitted end caps or coating to be fed through the enlarged hole. The interference fit is not as rigid or resilient to multiple rotation deformation as applies to the MARK II. The fit however, is very secure and widely use.



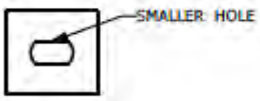
RBS MARK 1

RVC MARK 1

ROTALOCK MARK II

The MARK II type has a smaller hole in the base. A coated or capped RVC anchor cannot be threaded through the hold as there is insufficient clearance. If capping is required, it can be supplied loose and fitted during installation on site.

The MARK II system is a superior and stronger interference fit, with an improved tendency to retain grip after repeated rotations of the anchor in the hole. Refer drawing AN 29B for detailed dimensions.



RBS MARK 2

RVC MARK 2

AN 29E
Standard Rotalock Anchor

1. Refractory linings, such as refractory linings in rotary kilns, are subject to a small degree of movement of the refractory during operations and hence the anchor will be under stress to resist any movement. Additionally, stress occurs in the refractory as it tries to move against a rigid inflexible anchor. A non flexible standard anchor can therefore cause stress in the castable contributing to cracks occurring in the refractory lining. The rotalock system was developed to tackle these problems. Whilst the RBS base is firmly and securely welded to the furnace shell, the top RVC anchor has the capacity to move. Therefore the rotalock system has flexibility and can move to reduce stress in both the anchor and the refractory. As a result, the tendency for the lining to crack can be reduced and so obtain a reduction in anchor breakage.

2. The RBS base is usually manufactured in carbon steel. When welding to a carbon steel shell, a regular carbon steel electrode is all that is required. This simplifies the welding process and reduces the cost of the weld when compared to welding of higher grade stainless steel or high nickel alloy anchors. In addition to reduced costs, regular carbon steel rods are more commonly available, particularly in remote areas.

3. The RVC anchor can be manufactured from whatever alloy the customer prefers without any concern for the cost or difficulty of welding the alloy. Because no welding is required to join the RVC anchor top to the RBS base.

4. Rotalock anchors offer trafficking and safety advantages over traditional anchors. Traditional anchors are prewelded to the furnace shell prior to the refractory installation. These prewelded anchors stand up from the furnace shell. The forest of anchors, particularly in horizontal rotary kilns, makes it difficult for traffic in the kiln and for cleaning out of rubble before the refractory is installed. It represents a safety hazard for personnel tripping over or falling on top of anchors. It is not unusual for the traditional anchors to be trodden on and flattened out. When this occurs the anchors are normally hand bent back to their original shape. The rebending significantly increases the cold working effect on the anchor with subsequent reduction of working life of such anchors. The rotalock system does not have these problems. The only item that is welded to the furnace shell is the RBS base which is only approximately 30mm high and therefore does not suffer distortion or bending from traffic in the kilns. It is easy to clean rubble out prior to refractory installation and they have a much better safety feature due to their small size.

5. Similarly for prefabricated vessels manufactured offsite , as only the 30mm high bases need to be installed it avoids a forest of anchors , simplifying transportation and erection at site without risk of damage.

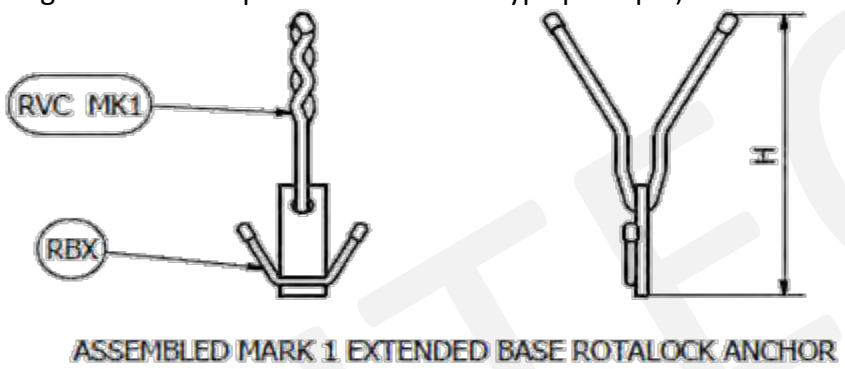
6. There is the possibility that the RBS base can be reused when relining the kiln, therefore considerably saving time and expense for repairs. In this event, anchors do not need to be ground off and rewelded. Whether the base is able to be reused is entirely dependant on the condition of the base and how many times the RVC anchor has been rotated in the base, if the edges in the hole of the RBS base have been too damaged from several rotations, the fit might not be tight enough and a light tack weld could be used to add rigidity to the RVC anchor in the RBS base. In this situation the cost again would be far less than removing and rewelding new anchors to the shell.

7. Refer to drawing AN 30 for additional advantages that apply to using extended bases for multi layer linings.

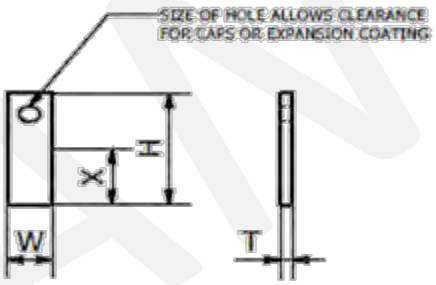
AN 30A

Extended Base Mark I Rotalock

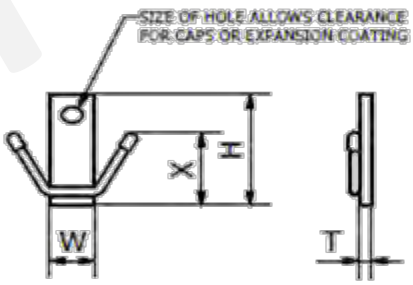
Refer drawing AN 29D for explanation of Mark I type principal)



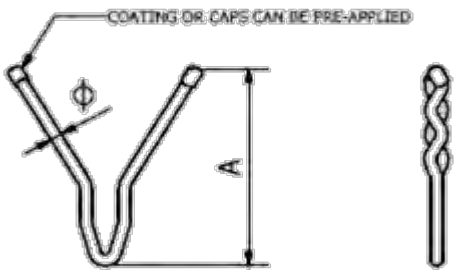
ASSEMBLED MARK 1 EXTENDED BASE ROTALOCK ANCHOR



RB (MARK 1)



RBX (MARK 1)



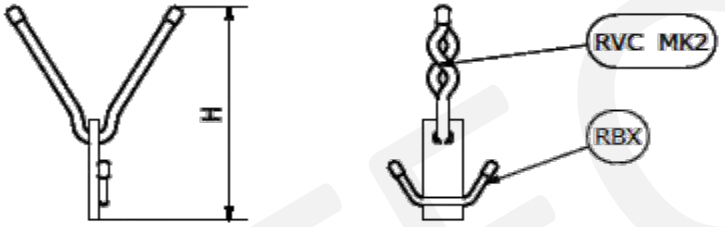
RVC (MARK 1)

All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3^{o} on Angular Dimensions
Unless otherwise noted

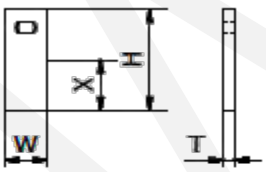
AN 30B

Extended Base Mark II Rotalock

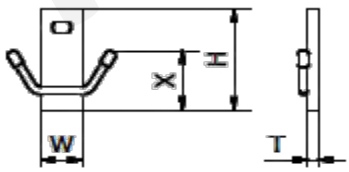
Refer drawing AN 29D for explanation of Mark I type principal)



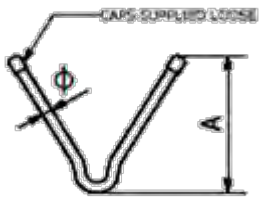
ASSEMBLED MARK 2 EXTENDED BASE ROTALOCK ANCHOR



RB (MARK 2)



RBX (MARK 2)



RVC (MARK 2)

All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 30C
Extended Base Rotalock System

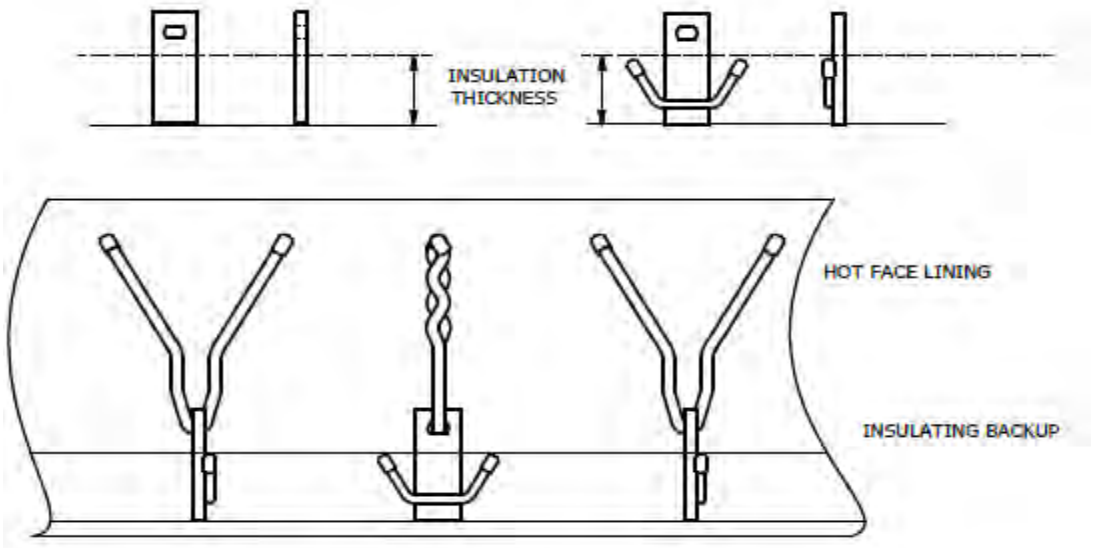
An **EXTENDED BASE ROTALOCK** is when the RBS base is extended and made longer than the standard 30mm OR 40mm high RBS base. The extended base is referred to as an **RB**.

For dual layer refractory linings the extended base rotalock has proven remarkably successful over the many years of use.

The height of the standard base is increased by the same amount as the back up lining thickness, so that the extended base (RB) protrudes through the back up lining by about 30-40mm.

The RB base can have an anchor welded to it to anchor the back up lining. This anchor is prewelded to the base; this reduces on site cost and time for welding of insulation anchorage to the furnace shell. This base with a welded anchor is referred to as an **RBX base**.

The standard RVC Vee anchor is used for the hot face



LINING CONFIGURATION

AN 30D
Extended Base Rotalock System

The extended base rotalock system has all the advantages of the standard rotalock system as detailed on drawing AN 29 E plus the following :

1. When installing the backup insulating refractory , the extended base (RBX) is the only part of the rotalock anchor system used . The RVC anchor is only installed after the insulation is completed and when the hot face refractory is to be installed . Without the hot face anchorage in place it significantly simplifies installation of the backup lining , giving better control . The rotalock base height gives good height gauge for lining thickness control and it is easier to trim back excess thickness of insulating lining between the short base pieces extending through the back up lining .

2. Historically when conventional anchors break in service , it is most often at the interface of the back up lining and the hot face lining . Differing stresses and other reasons have shown that it is crucial to consider the strength of the anchor at the interface to help reduce failure during operation . The extended rotalock has a cross section area at the interface of 300mm or equal to the approximate cross section areas of a 20mm diameter round bar. The extended rotalock has proven resistant to breakage at this point due to its strength and mass . No reported breakage at the interface has ever been reported over many years of usage of the system. Also, as there is no cold working or bending at the interface point , there is no acceleration of thermally induced embrittlement under operating temperatures .

3. When repairing dual layer linings anchored with Extended Bases Rotalocks, some operators only replace the hot face refractory and do not remove the insulation back up . Because the rotalock system is separable , the RVC anchor can be readily replaced whilst leaving the RBX base intact . When this applies the time saving and cost saving is of major consideration ans summarised as follows:

a) Insulation not needed to be replaced saving on demolition cost , new insulating refractory supply and reinstallation costs .

b) Anchors do not have to be ground off from the shell .

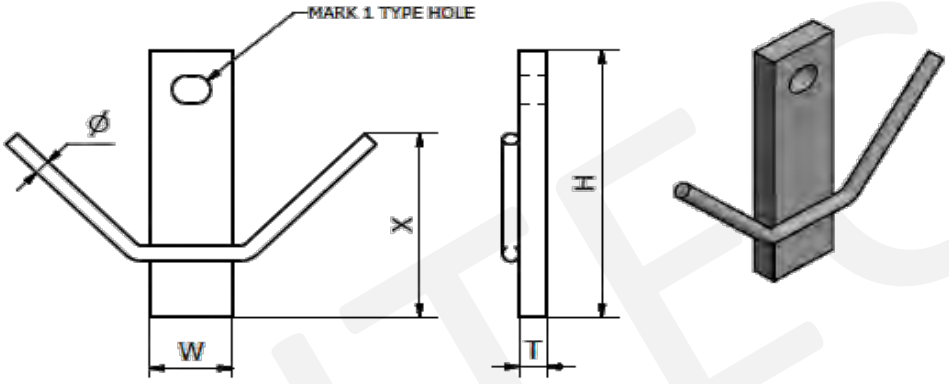
c) The repair of the hot face can generally be carried out by the one trade, not requiring welding.

(In the case of repeated rotation of the RVC anchor bases , the edges of the hole creating the interference fit will be increasingly deformed , progressively reducing the tightness . In that case a light tack weld may be needed to give the RVC sufficient strength to remain vertical . Even if this applies , the savings are still considerable .)

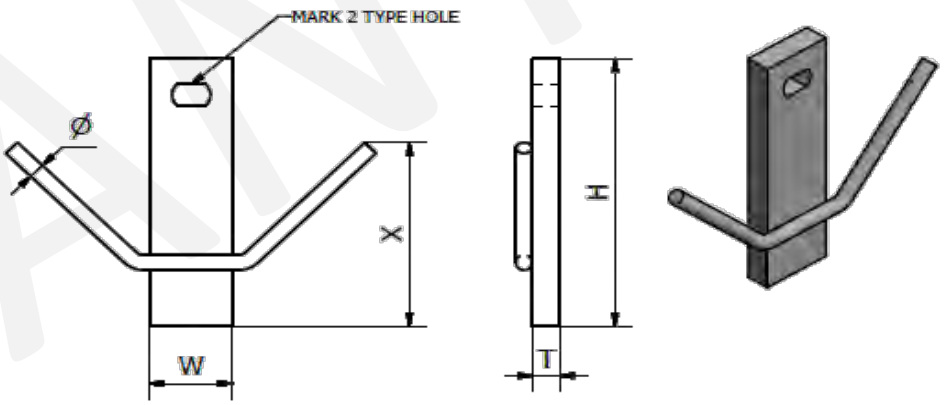
4. The rotalock system is supplied as two separate pieces . The RBX base may not be subjected to the same temperature and operational conditions as the RVC top . Therefore if preferred , the RBX base can be manufactured from a lower and less expensive alloy grade . This not only decreases supply cost , but could mean lower cost welding wire .

5. With a one piece conventional anchor, the entire anchor needs to be manufactured from alloy appropriate to the most demanding conditions. Stainless alloys are subject to thermally induced embrittlement when operating in a temperature zone generally between approximately 600C and 900C . If a furnace temperature is say 1100C , due to the temperature gradient through the lining thickness , some section along the length of the anchor will be exposed to this undesirable embritttling effect of this temperature zone . Therefore because the rotalock is a two piece system it allows the customer a choice to use a higher and more effective grade in the part of the rotalock anchor system enabling it to operate in this temperature zone

AN 30E
RBX Base Mark I & II



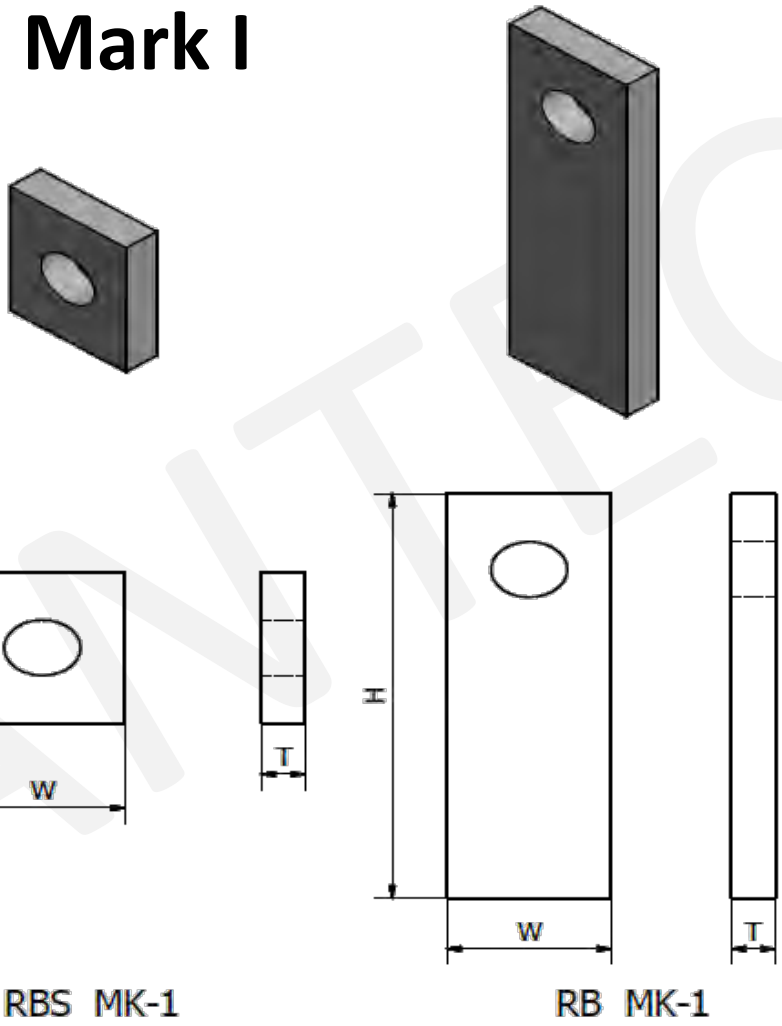
MARK 1



MARK 2

All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 30F
RBS RB Mark I



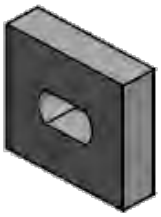
RBS MK-1

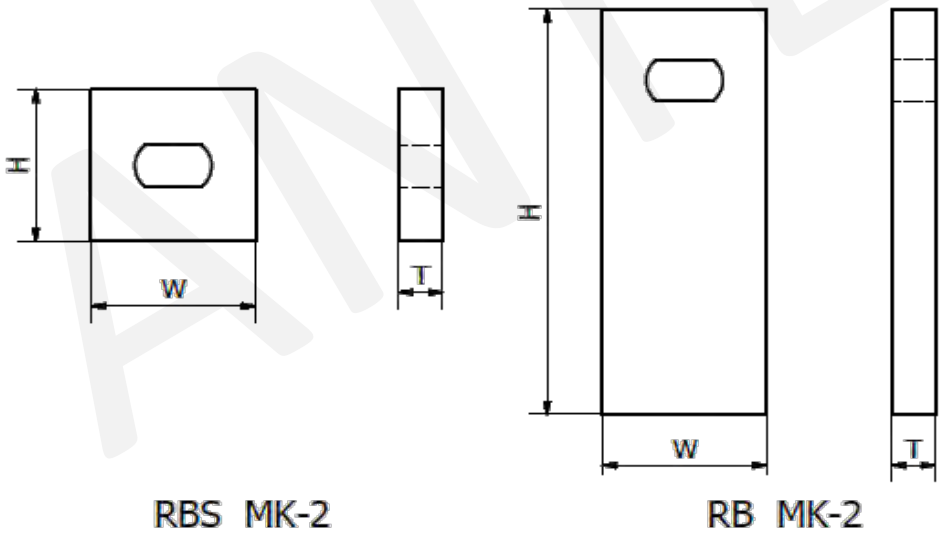
RB MK-1

All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

Edges rounded on RBS if manufactured in carbon steel

AN 30G
RBS RB Mark II





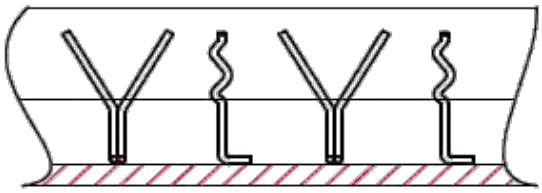
RBS MK-2

RB MK-2

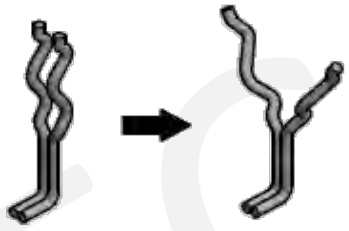
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

Edges rounded on RBS if manufactured in carbon steel

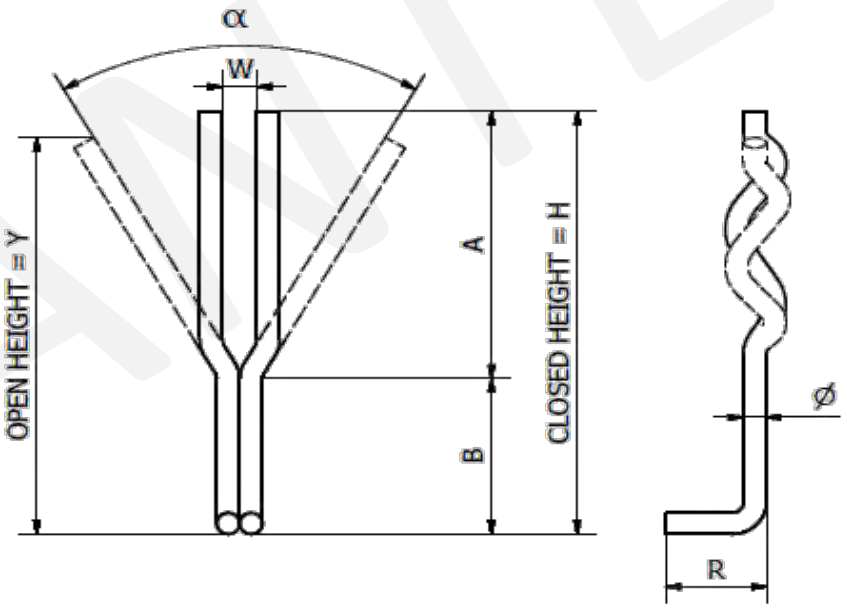
AN 31
FC Anchor



FIBERCAST ANCHORS (FC) SUPPLIED WITH TYNES PARALLEL; AFTER INSULATION LINING IS INSTALLED , THE TYNES ARE BENT OUT TO FORM A VEE AND THE HOT FACE REFRACTORY IS INSTALLED.



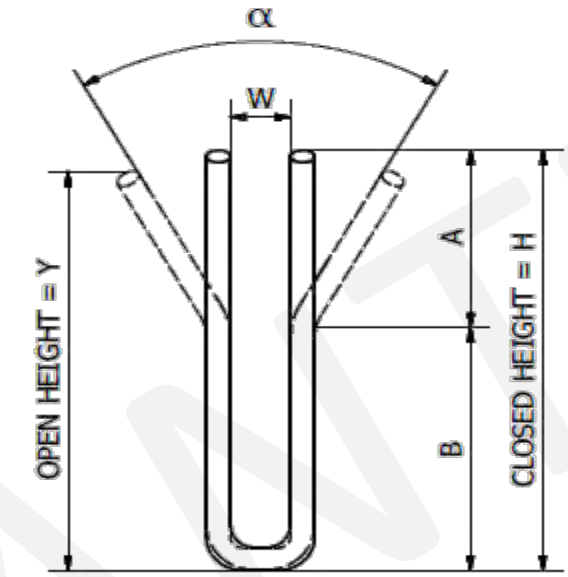
CLOSED POSITION OPEN POSITION

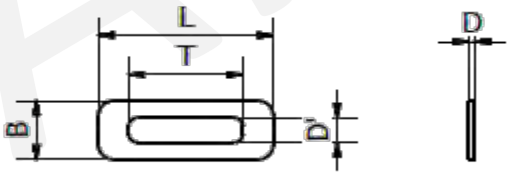


All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 32
HP Anchor

CLOSED POSITION OPEN POSITION



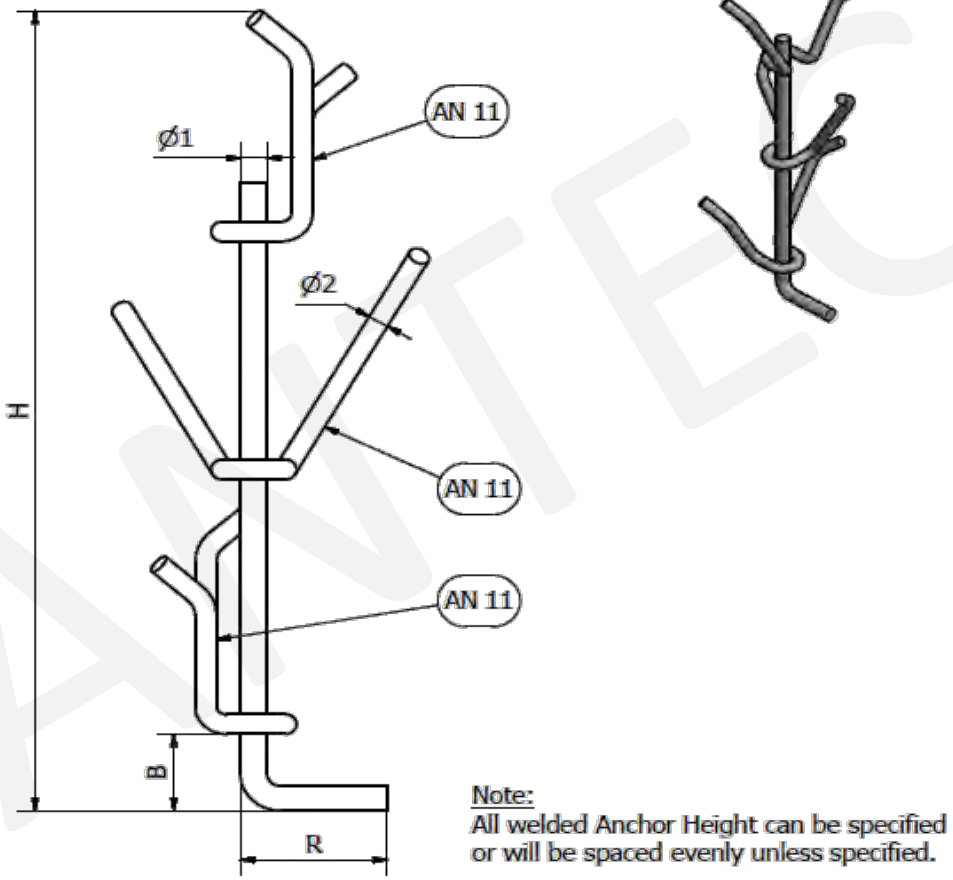


WASHER DETAIL

FINAL ASSEMBLY DETAIL

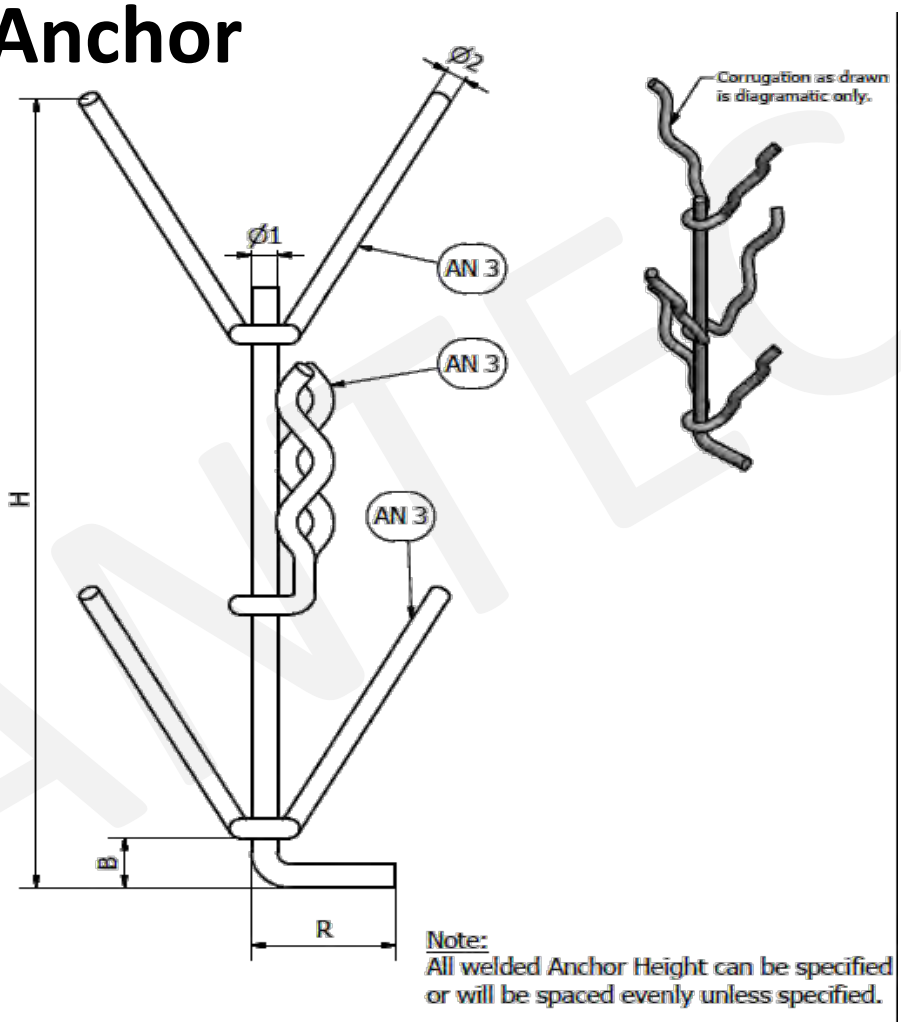
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3^{o} on Angular Dimensions
Unless otherwise noted

AN 33
WNL Anchor



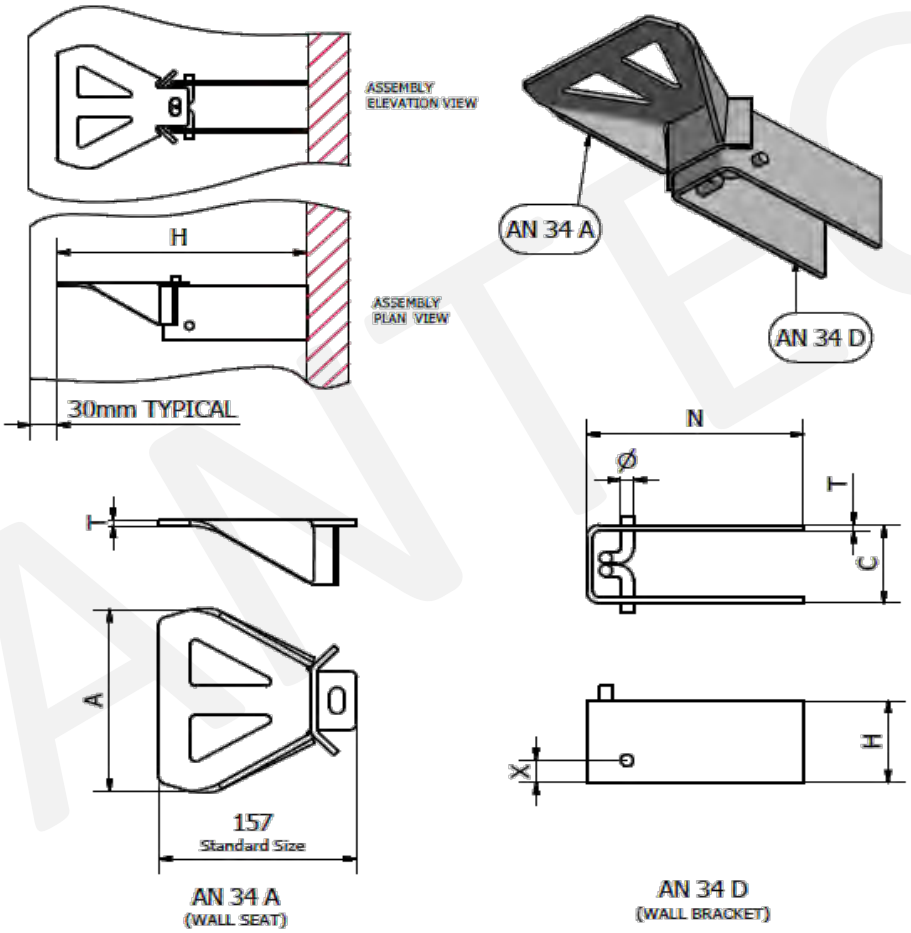
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 33A
VCXT Anchor



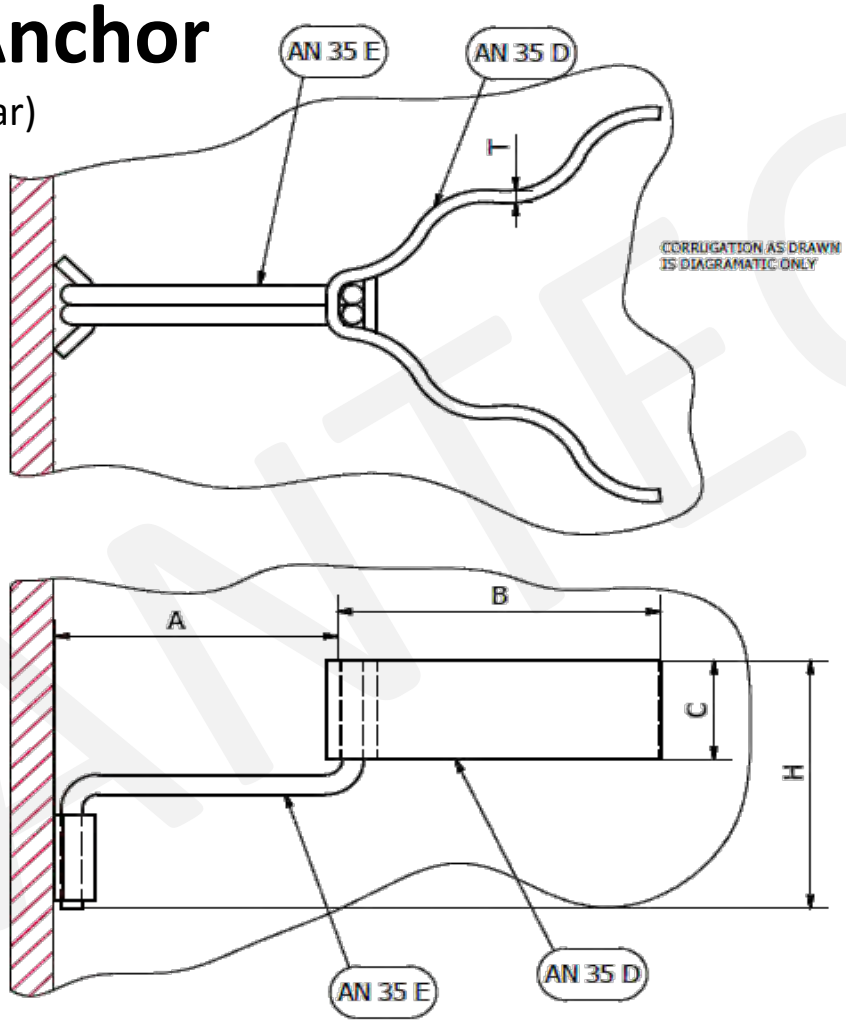
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 34
Wall Seat Anchor



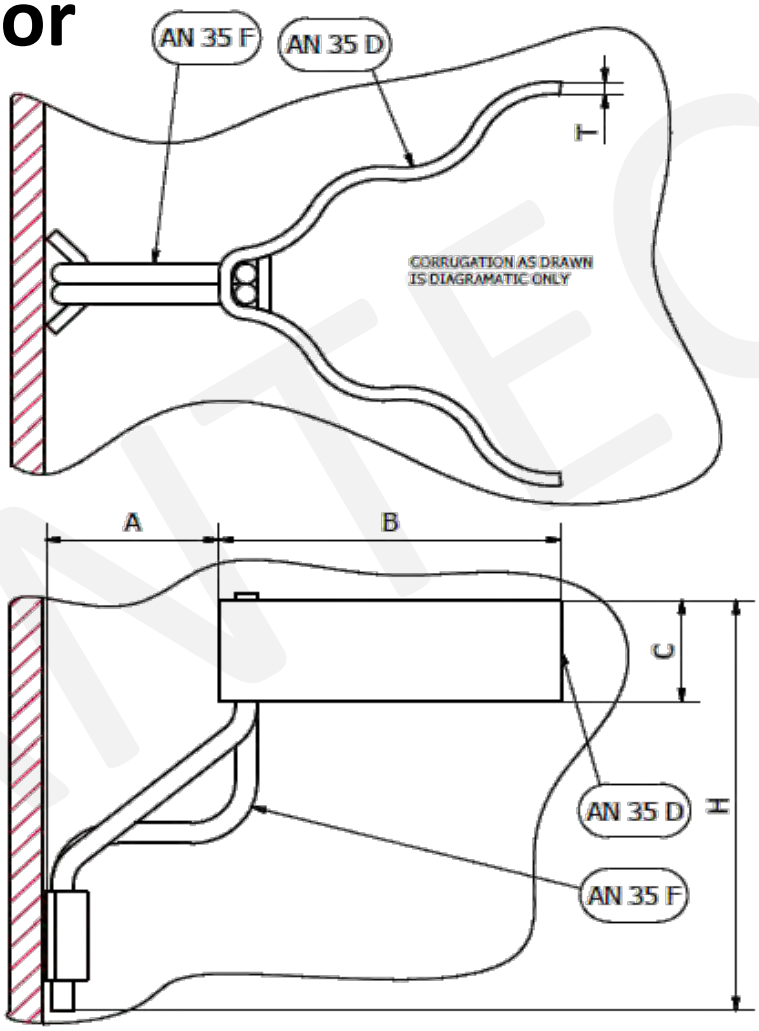
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 35A
PV Anchor
(with z bar)



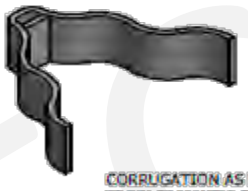
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3^{o} on Angular Dimensions
Unless otherwise noted

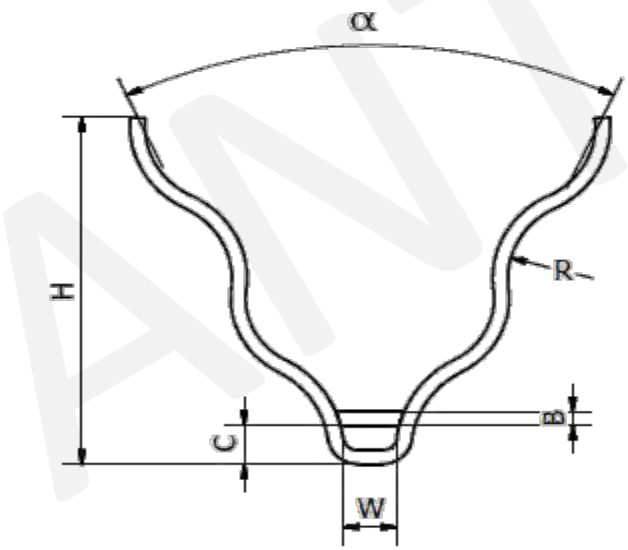
AN 35B
PV Anchor
(with ZBM bar)



All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3^{o} on Angular Dimensions
Unless otherwise noted

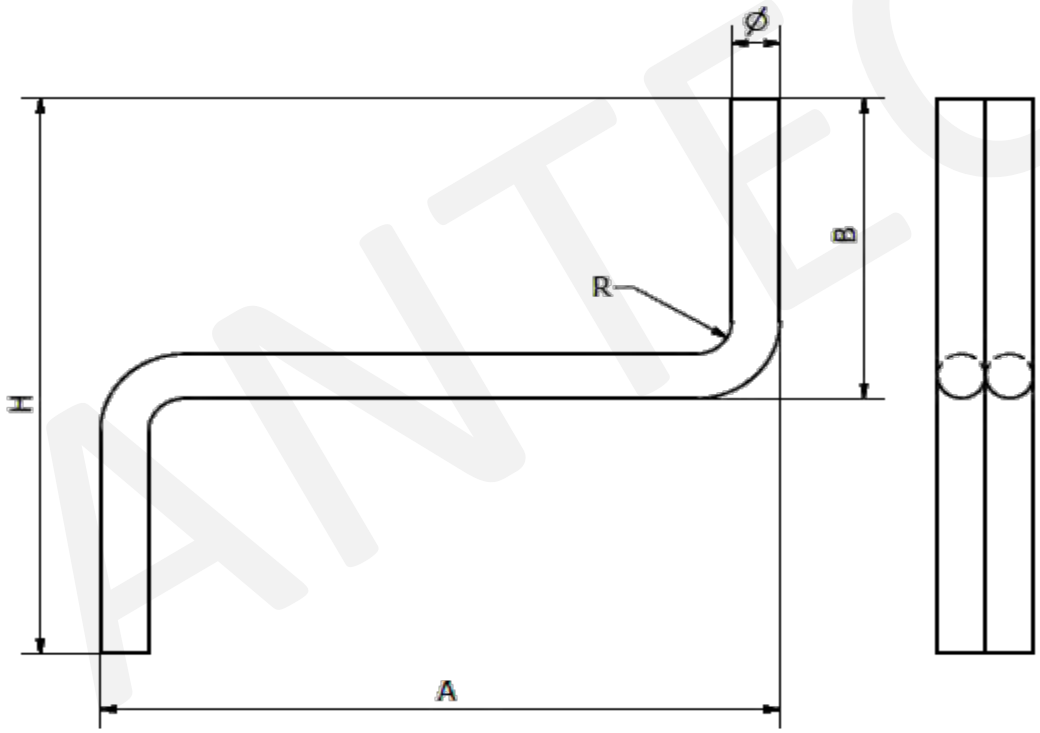
AN 35D
PV Anchor





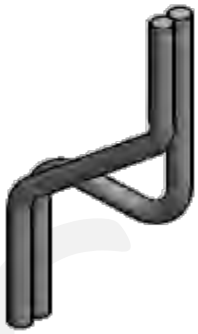
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

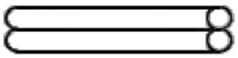
AN 35E
Z Bar

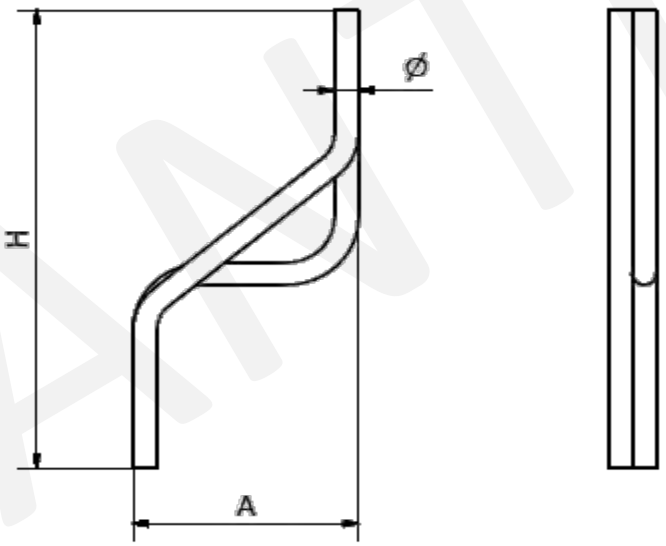


All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 35F
ZBM Bar



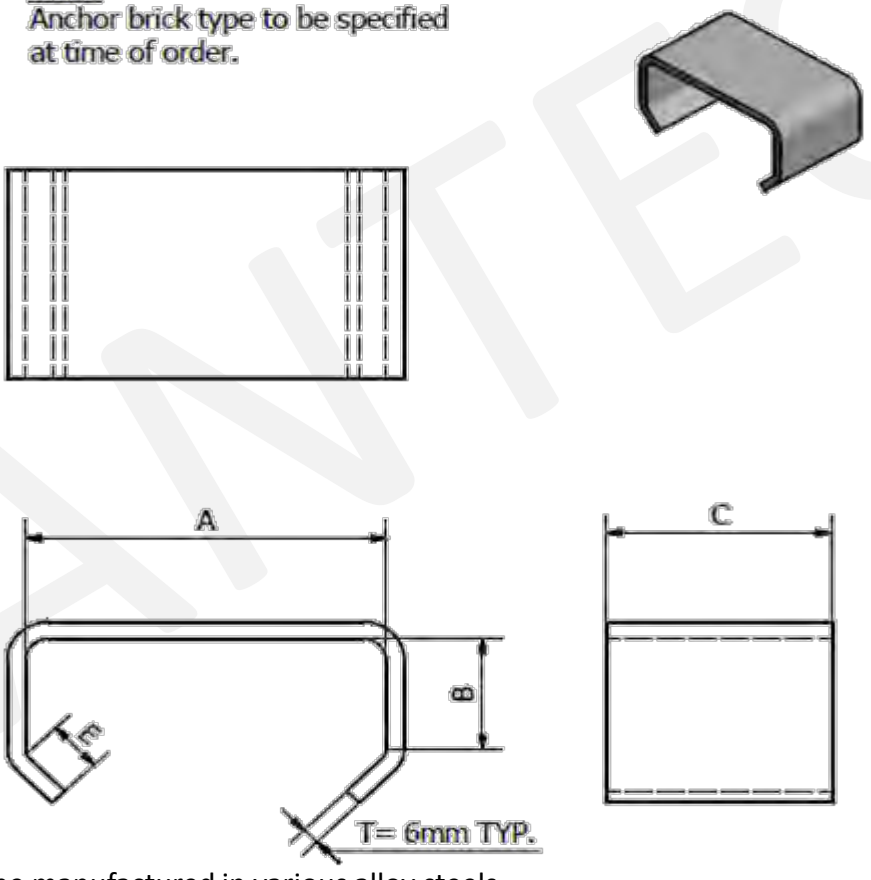




All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 36
C Clip Type 1

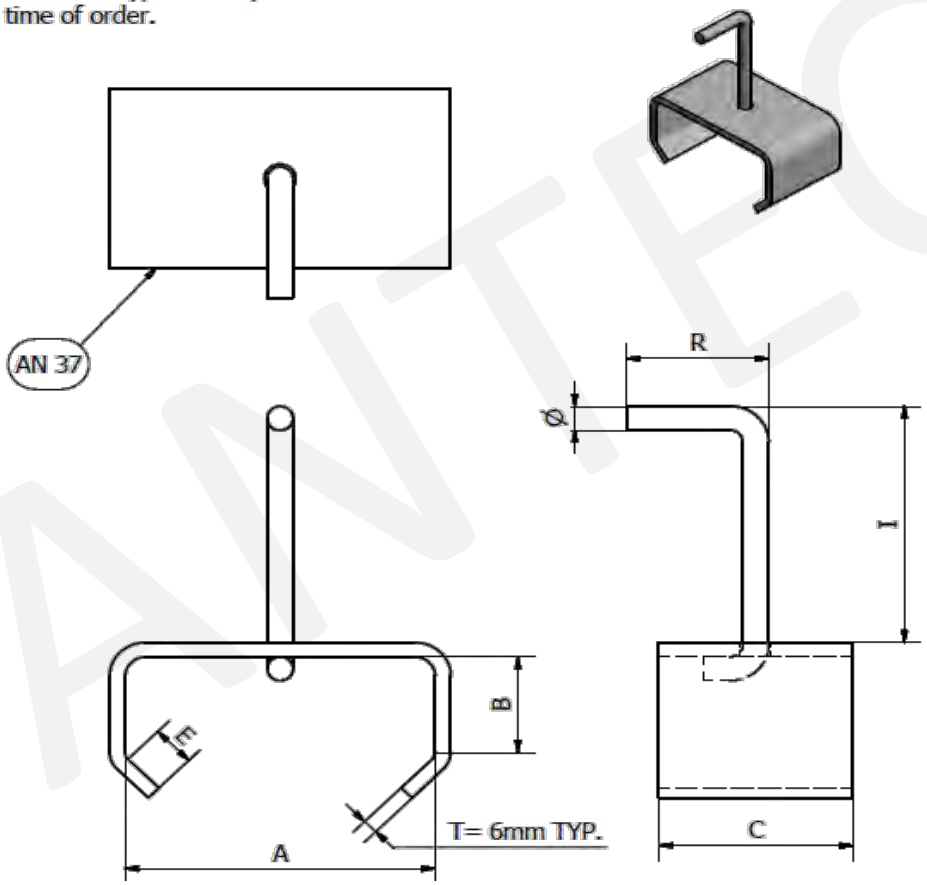
Note:
Anchor brick type to be specified at time of order.



All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

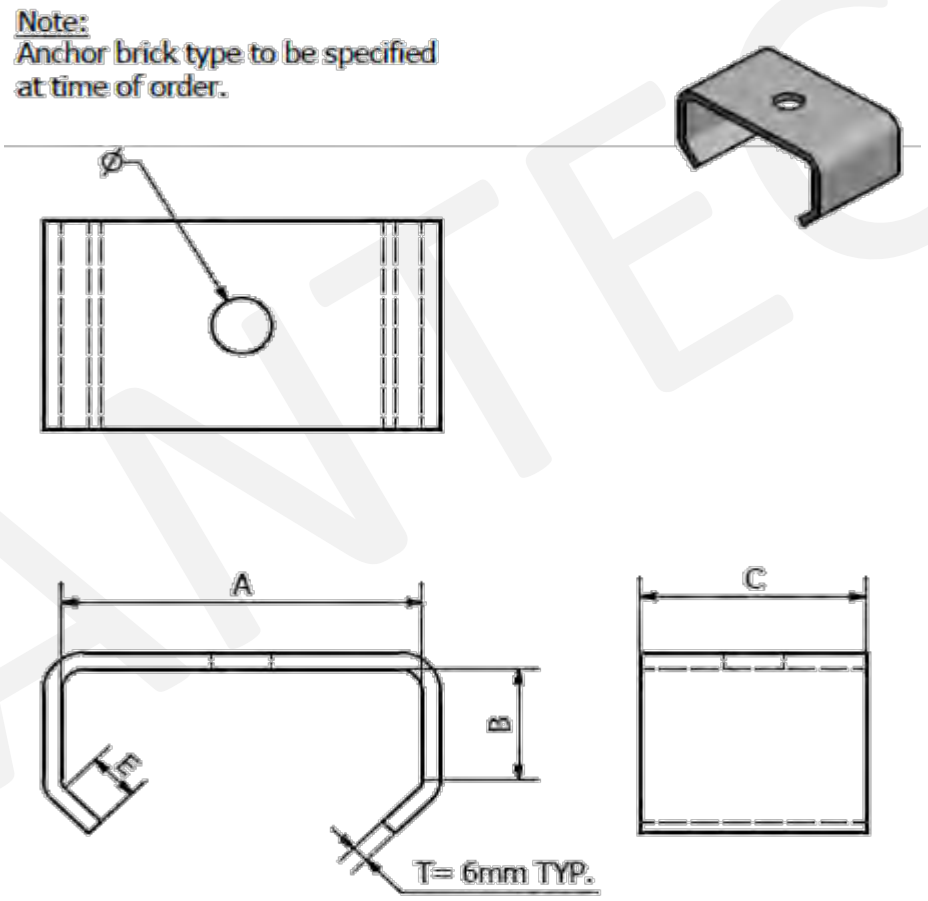
AN 37
C Clip Type 2

Note:
Anchor brick type to be specified
at time of order.



All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

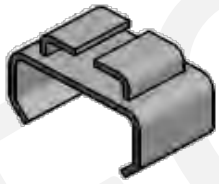
AN 38
C Clip Type 3

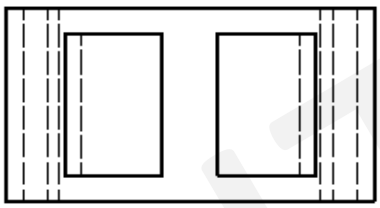


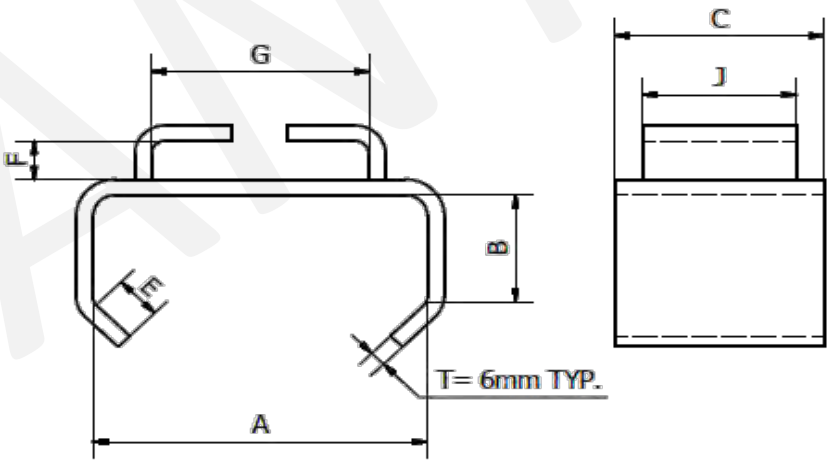
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 39
C Clip Type 4

Note:
Anchor brick type to be specified
at time of order.

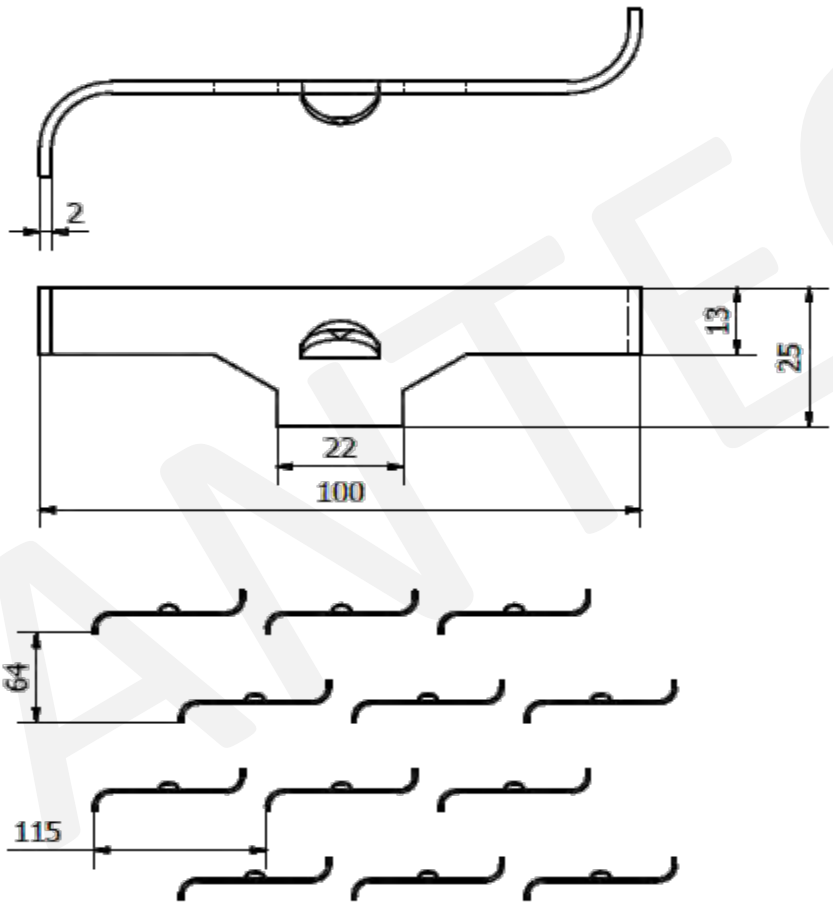






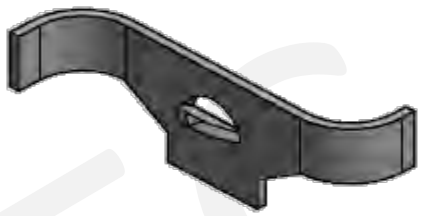
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

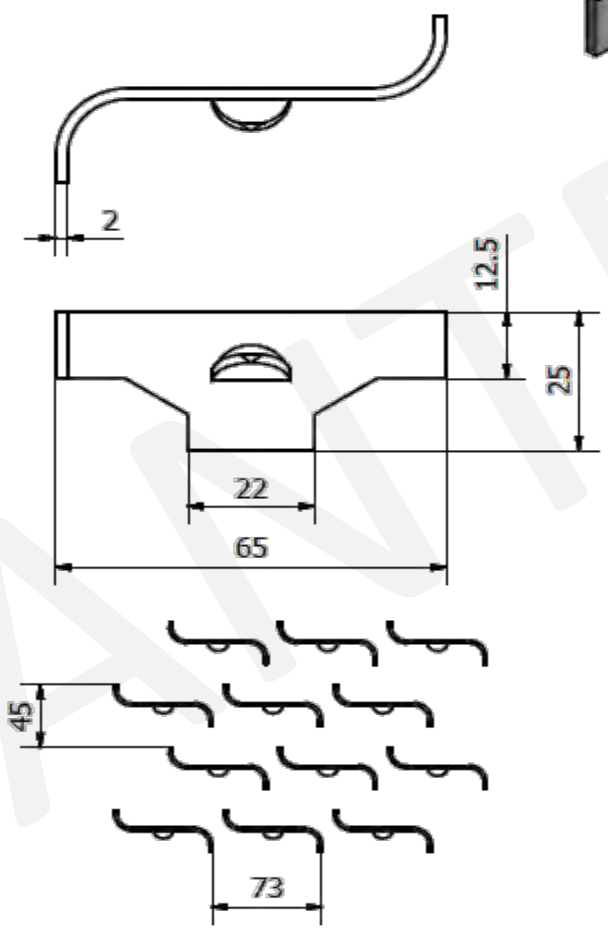
AN 40
S Bar Anchor



All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 40
M Mini S Bar Anchor

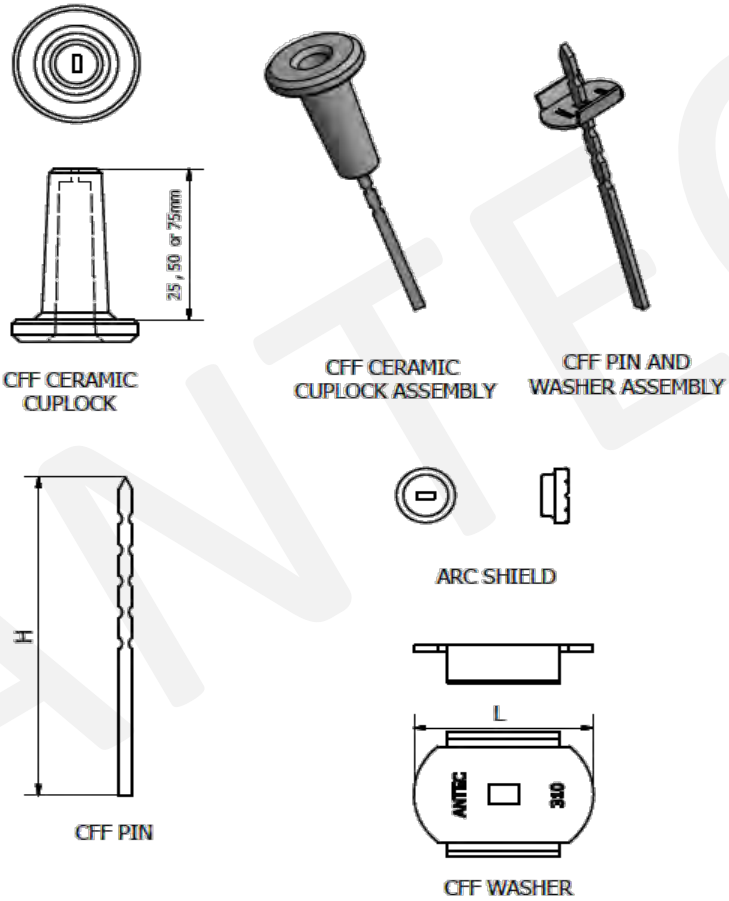




STANDARD LAYOUT

All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

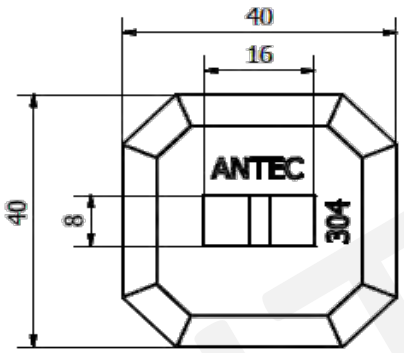
AN 41
A2 CFF & Washer



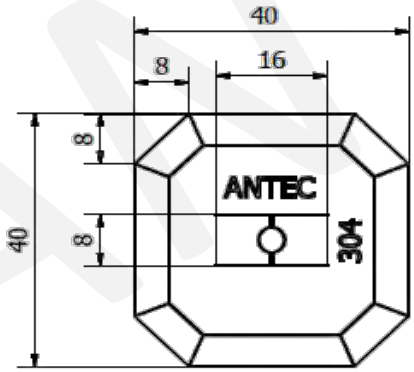
CERAMIC FIBRE ANCHORING SYSTEM

All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 41C
Speedclip



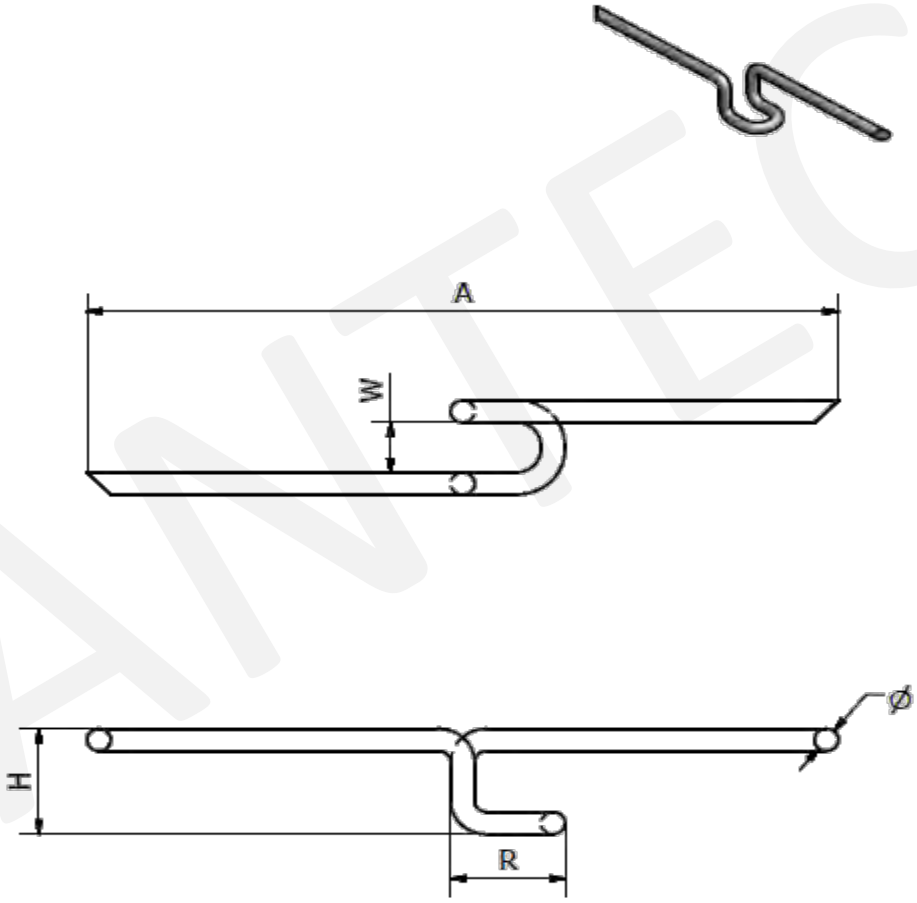
To be used with
Antec CFF Pins



To be used with
Round Studs

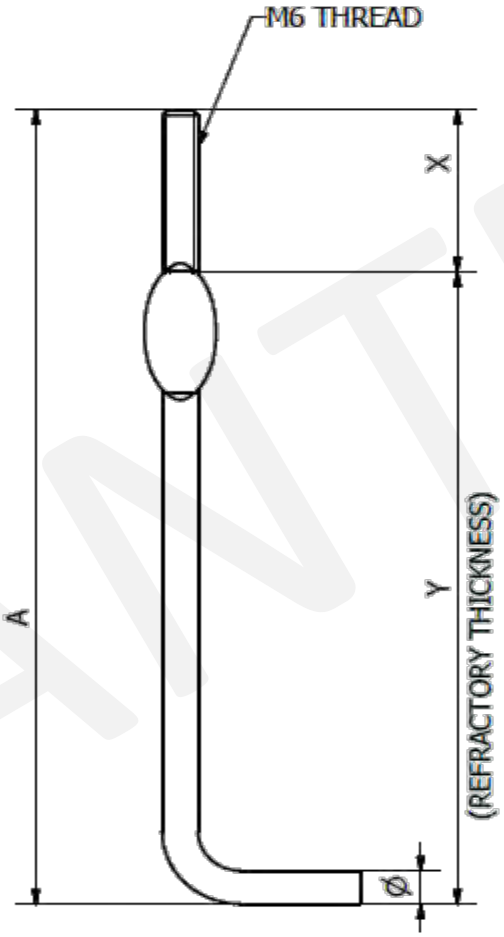
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3^{o} on Angular Dimensions
Unless otherwise noted

AN 42A
Wireform Spearlock



All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

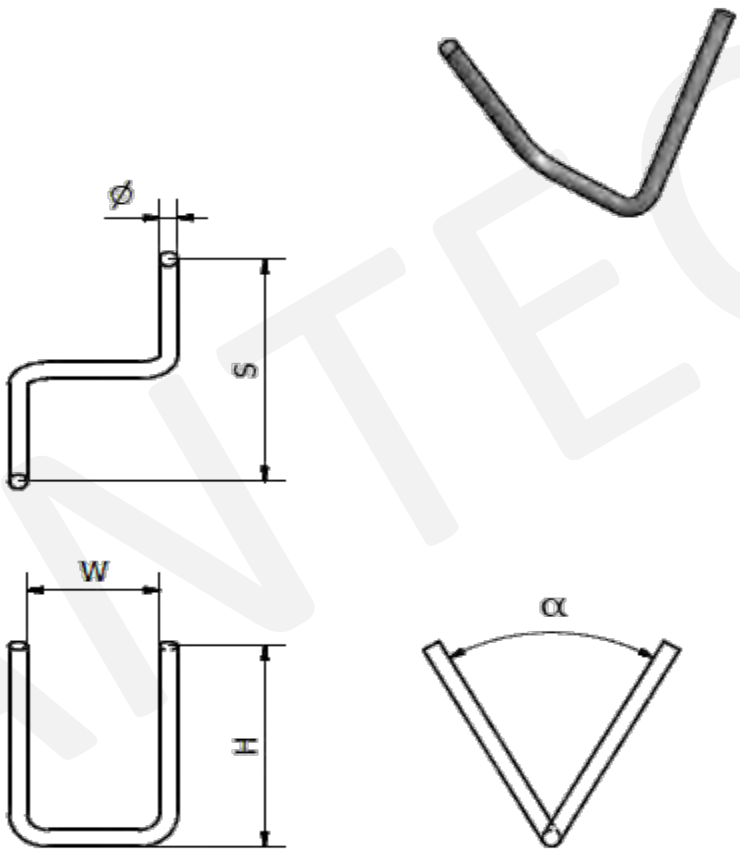
AN 43
Threaded Snap Tie



All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

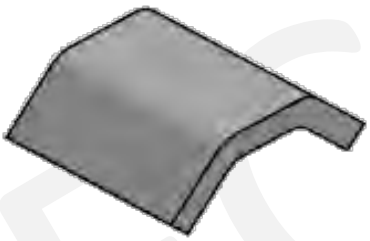
Note: Maximum thread length 40mm M6

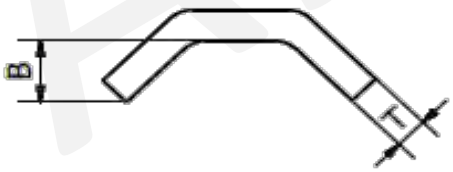
AN 44
BT Anchor

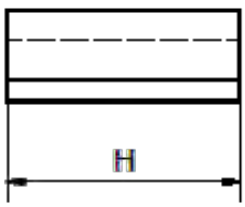


All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 56
D Strap

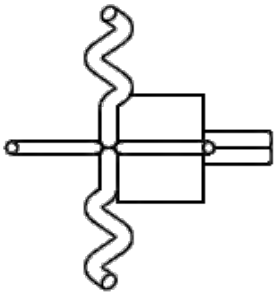


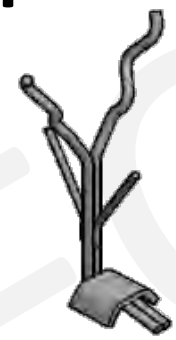


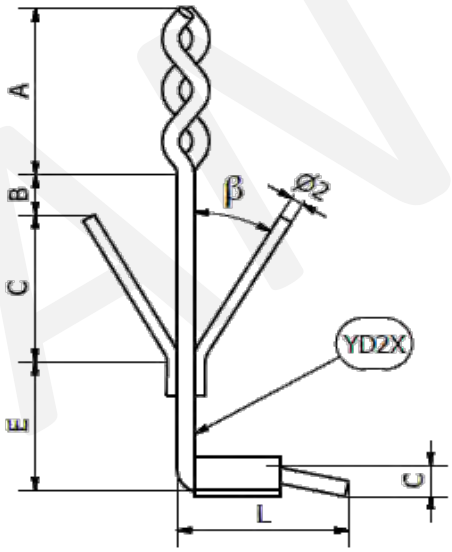


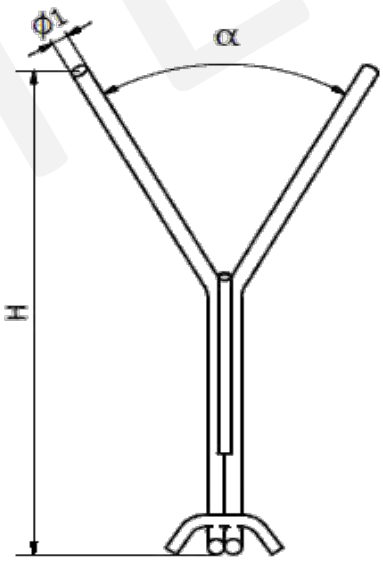
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3^{o} on Angular Dimensions
Unless otherwise noted

AN 56A
YD2X with cleat or strap



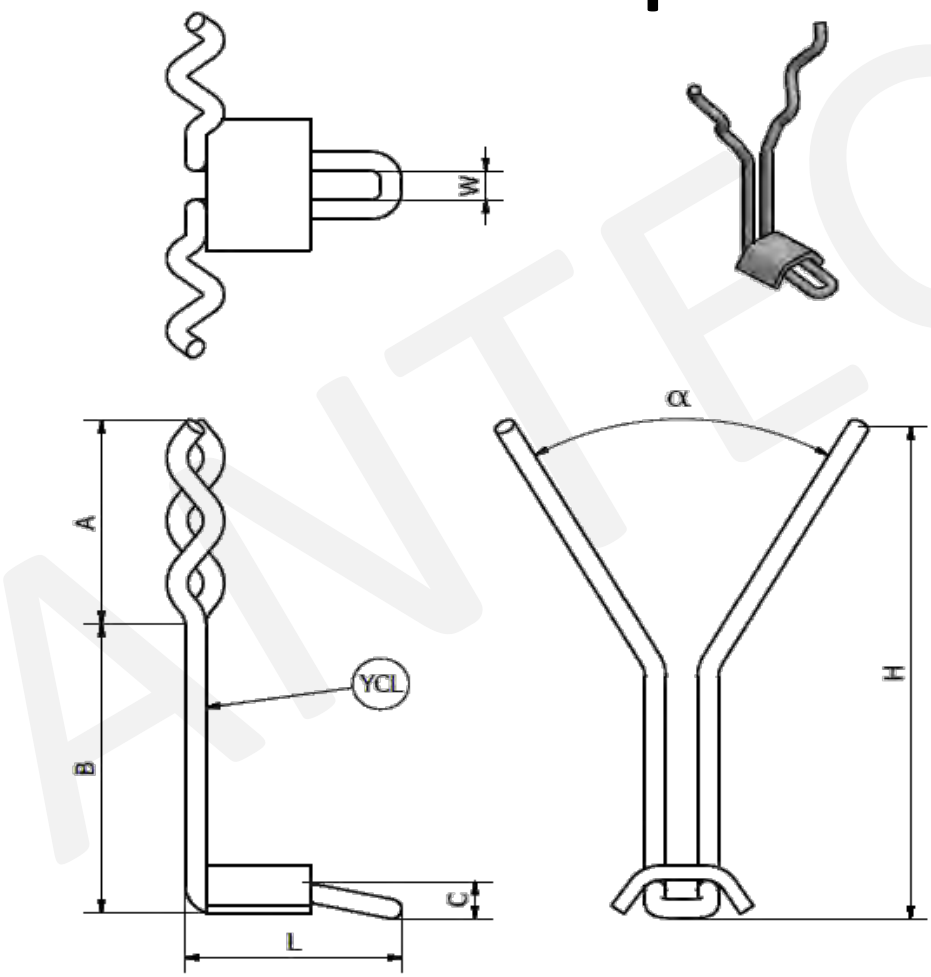






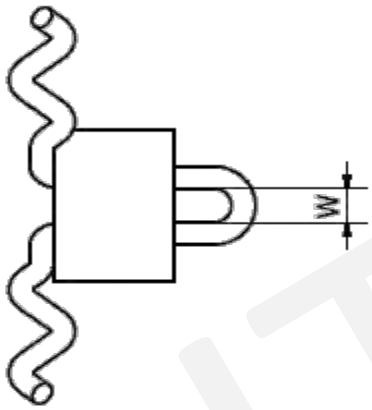
All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

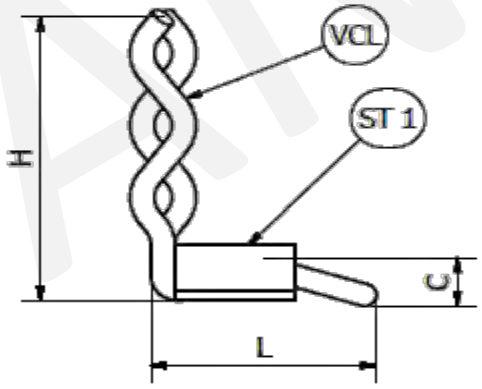
AN 56B
YCL with cleat or strap

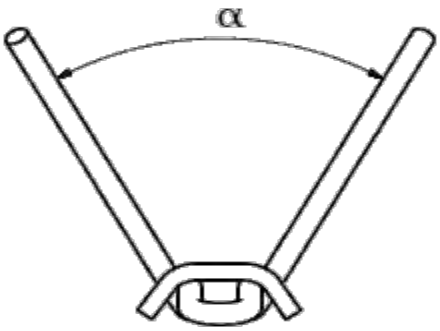


All items can be manufactured in various alloy steels
Tolerances:
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 56C
VCL with cleat or strap







All items can be manufactured in various alloy steels
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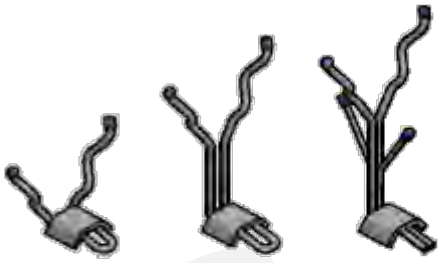
+/- 3mm on Dimensional
+/- 3° on Angular Dimensions
Unless otherwise noted

AN 56
Straplock System



Advantages of the Antec Straplock system:

1.The V anchor is held securely by the Strap or Cleat but also has the ability to move with the lining, reducing stresses in the castable (for reduced crack potential) and stresses on the anchor (for reduced breakage potential).

2.While the V anchor has the abillity to move with the lining at the same time it is held securely by the Strap so there is no chance of it colllapsing when installing refractory .

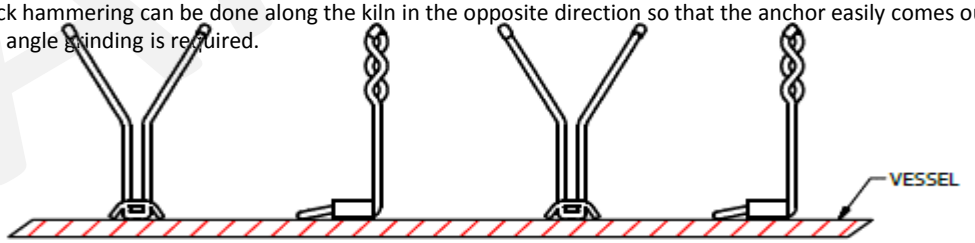
3.The Cleat or Strap is welded to the furnace shell before the V anchor is inserted; therefore the V anchor is not subject to damage from foot or equipment traffic in kiln. This overcomes a common issue of re-bending welded V anchors that were bent prior to installation of refractory. Re-bending of welded anchors can also reduce service performance.

4.The Cleat or Strap can be manufactured from a lower grade alloy or carbon steel as it is at the back of the lining. This can result in lower raw material costs and lower welding costs as less expensive, commonly available electrodes can be used.

5.Improves safety for traffic in kiln as the V anchors are only installed just prior to the installation of the lining, thereby avoiding the "forest of anchors" . The Antec Straplock also simplifies the handling of prefabricated components.

6.The Antec Straplock has the potential to reuse the bases when repairing or relining, saving on downtime, welded anchor removal, welding time and cost for replacements.

7.The V anchors can be installed into the straps in a directional radial pattern along the kiln. This can facilitate fast demolition as jack hammering can be done along the kiln in the opposite direction so that the anchor easily comes out of the strap and no angle grinding is required.

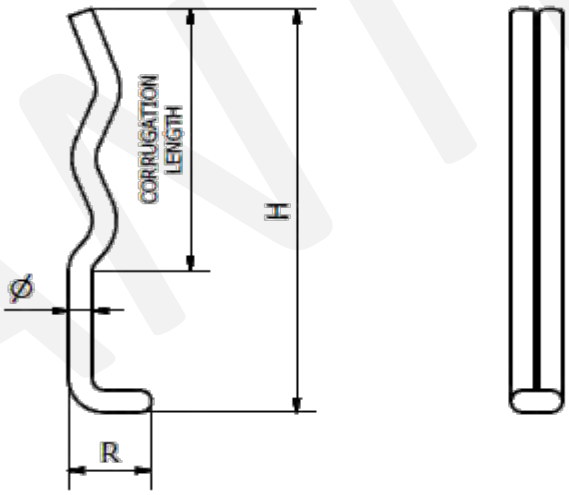


8.The straps can be reused after demolition. This anchor design utilises a resistance grip, not an interference grip, to hold the V anchor in place allowing anchors to be replaced without the need to replace the strap.

9.Utilising a YDX anchor increases cross sectional area to resist stresses and horizontal forces. For thicker linings it also enables extra prongs to be welded to the closed legs for increased anchorage.

AN 74
Looped Base Hair Pin

CORRUGATION AS DRAWN
IS DIAGRAMATIC ONLY



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+/- 3° on Angular Dimensions
Unless otherwise noted