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Aviator[®]

REMOVABLE EYEBOLTS

PRODUCT DATA SHEET
REPORT NO: 032

REVISION NO: 002

PRODUCT CODE: RE380

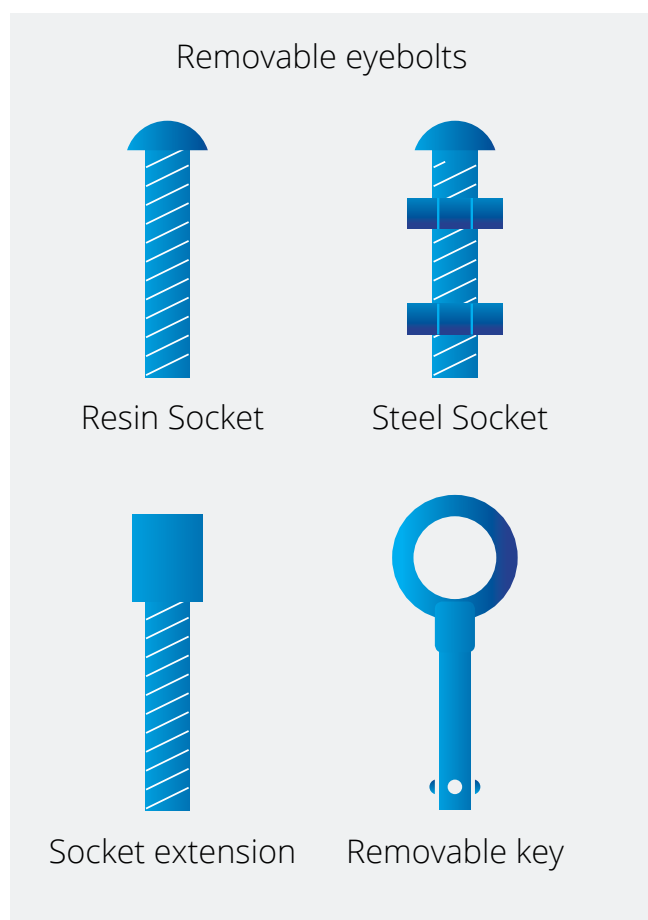


AVIATOR REMOVABLE EYEBOLTS



PRODUCT DESCRIPTION:

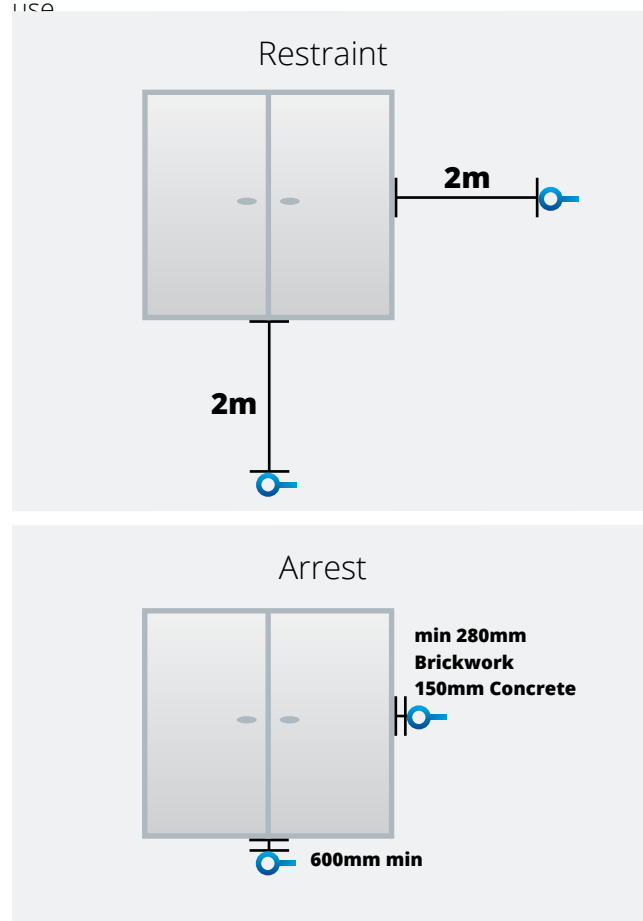
Removable eyebolts are designed to be fixed to a structural substrate such as structural steel or concrete to provide suitable connection points for both fall restraint and fall arrest use. The position of the eyebolts in relation to a fall hazard will determine whether the operator is working in fall restraint or fall arrest. Eyebolts are supplied in stainless steel. They are secured to concrete and brickwork/ blockwork with resin anchors and to steelwork with stainless steel bolts, washers and locking nuts. When fixing to metal deck or timber deck it may be necessary to provide a backing plate to ensure compliance. A socket extender must be used when fitting to timber and hollow core concrete floors.



The eyebolts are designed for 1 user at any one time and 2 users in the event of any emergency evacuation requirements. For fall restraint use, which is highly recommended, the eyebolts need to be positioned at least 2.0m away from any exposed edge. This will allow the operator to access the area

using a 2.m lanyard connected to a full body harness, safely without risk of falling. Different lengths of fixed lanyards can be provided to accommodate different eyebolt connection points. If an inertia reel is used or the eyebolts are fixed nearer the end than the length of lanyard the operator will be working in fall arrest. In these situations the operator must ensure they have read and understood the site rescue plan.

Involving our specialist design teams as early as possible will ensure the most cost effective system is used without compromising any safety or access requirements. Our designers will consider the welfare and safety of both operatives and non-operative personal during the construction phase and future use.

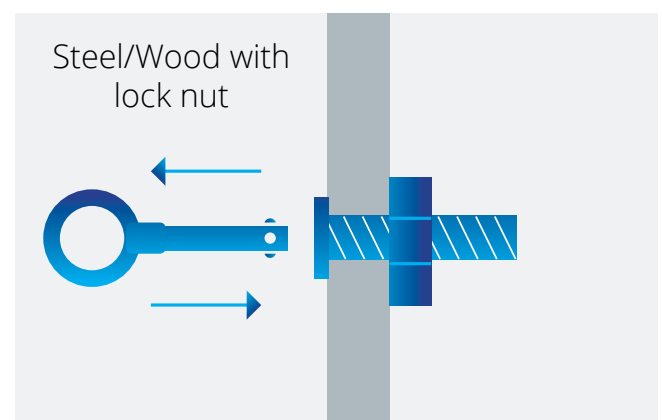
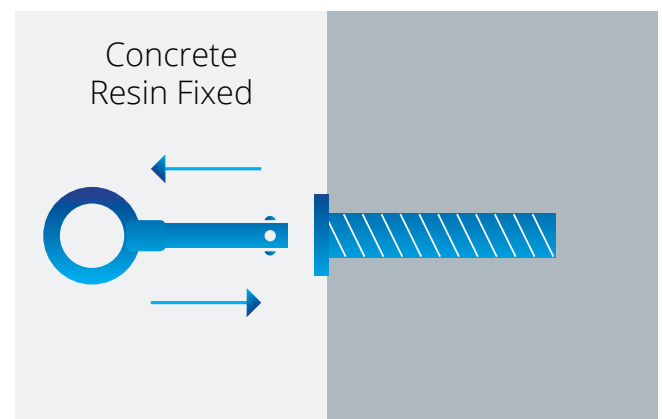
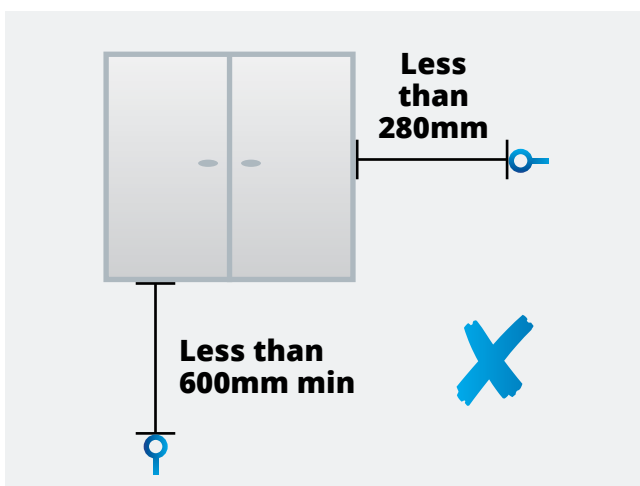
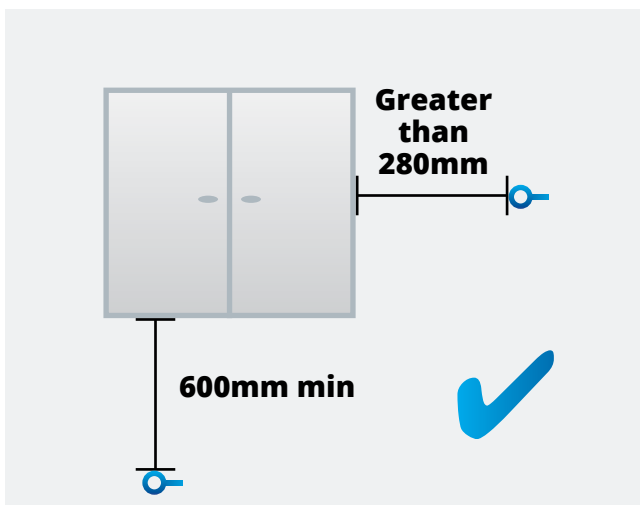


AVIATOR REMOVABLE EYEBOLTS



Removable eyebolt sockets are supplied in a length of 100mm. This socket is for use on concrete and block/brickwork thicker than 100mm. These eyebolt sockets are also used when fixing to structural steel and are secured with stainless steel locking nuts. For any concrete substrates less than 100mm deep such as hollow core concrete or cavity walls the socket extension must be used. A minimum thickness of 125 mm C16 or stronger timber is required. Eyebolts can be installed on the horizontal or vertical substrates of a building. Careful consideration must be taken when designing the eyebolt positions to ensure any operator lanyards will not foul with any roof plant or furniture or fixtures. All eyebolts must be secured at least 280mm from any substrate edge.

Removable eyebolts are designed so the eyebolt key can be inserted in the socket when required and removed when the work is completed. They are ideally suited for fitting inside buildings open to the general public such as office blocks and hotels. They can be positioned in pedestrian areas such as entrance halls and corridors, because when the key is removed a socket cap is fitted, which is virtually flush with the wall finish. The use of removable eyebolts should always be considered during design for these areas. Unlike permanent eyebolts the socket does not require removal for inspections and the wide throat of the socket can be inspected for wear and rust using the correct equipment. This feature is essential when it would not be possible to access the complete socket in timber and steel fixed eyebolts.



AVIATOR REMOVABLE EYEBOLTS



MATERIAL SPECIFICATION:

Component parts - Eyebolt

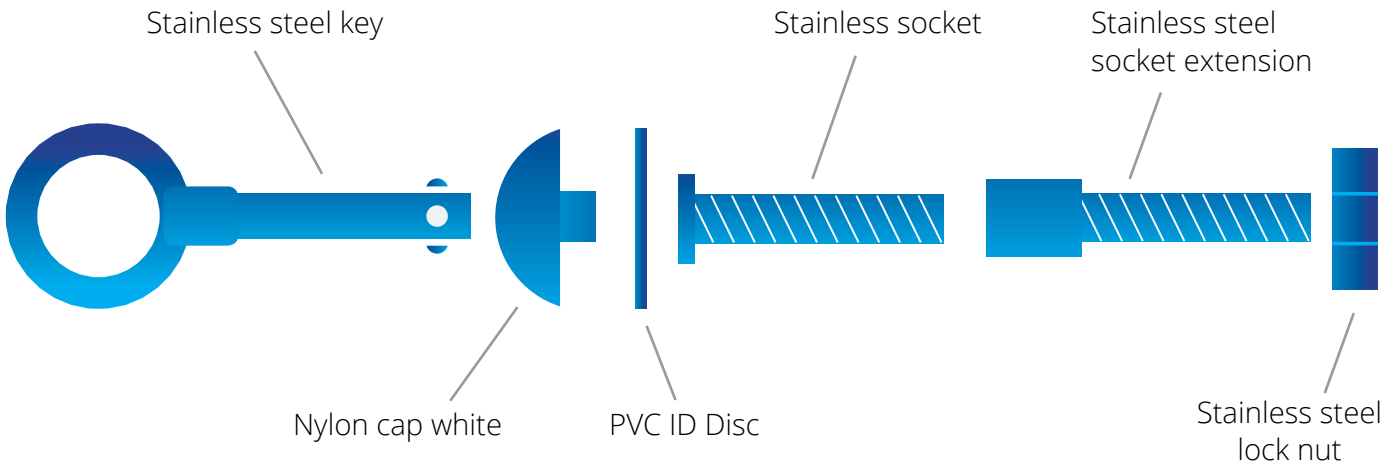
Stainless Steel - Grade 304 (UNS S30400)
 Fe, <0.08% C, 17.5-20% Cr, 8-11% Ni, <2% Mn, <1% Si,
 <0.045% P, <0.03% Stainless Steel

Socket and locking nuts

Stainless Steel - Grade 304 (UNS S30400)
 Fe, <0.08% C, 17.5-20% Cr, 8-11% Ni, <2% Mn, <1% Si,
 <0.045% P, <0.03% Stainless Steel

Identity disc

Polyvinyl Chloride-PVC. Tensile Strength 2.60 N/mm², Notched
 Impact Strength 2.0 - 45 Kj/m², Thermal Coefficient of expansion
 80 x 10⁻⁶, Max Cont Use Temp 60 C, Density 1.38 g/cm



Nylon cap

Specific gravity	1.14
Tensile strength P.S.I.	8,700-13,000
Elongation %	50 - 200
Melting Point °C	265
Minimum °C	-40
Max. - Continuous °C	80
Max. - intermittent °C	170
Effect of weak acids	resistant
Effect of weak Alkalis	resistant
Effect of Organic solvents	resistant
Effect of Oils & greases	resistant
Effect of Sunlight	discolours slightly

INSPECTION/MAINTENANCE/TRAINING

INSPECTION ROUTINE:

All systems to be inspected at least every 12 months from date of installation.

In harsh environments all systems to be inspected at least every 3 months.

Inspections must be carried out by approved Aviator engineers.

Inspections must be approved to SIMS (Safety Inspection and Maintenance Service) standards.

All inspections to be carried out to EN795:2012 and BS 7883:2005 and WAHSA (inspection of eyebolts) requirements for safety line and anchor points.

All inspections to be carried out to EN364 requirements for personal protective equipment.

Contact Sayfa Systems to arrange inspections.

MAINTENANCE SCHEDULE:

All maintenance to be carried out by approved Aviator engineers. Maintenance to be in accordance with Sayfa Systems UK (manufacturer) guidelines and recommendations.

In harsh environments all systems to be inspected at least every 3 months.



Maintenance to be in accordance with SIMS standards. (details available on request)

Maintenance to be carried out at time of yearly inspection.

Contact Sayfa Systems to arrange system maintenance.



TRAINING REQUIREMENTS:

All personnel who use the Aviator system should have attended a Sayfa Systems Ltd, Aviator users course.

Courses are available from Sayfa Systems UK Ltd.

Courses cover the use of all Aviator and Payload products, the legal and practical side of the Working at Height legislation - 2005 and how to use and carry out safety checks on harnesses and all necessary PPE equipment.

CERTIFICATE

OF
OPERATIVE INSTRUCTIONAL TECHNIQUES AND
WORKING AT HEIGHT SAFETY

In recognition of successful completion of training for the installation and assembly, use, handling and safety checks of:-

Aviator Safety Line Systems	<input checked="" type="checkbox"/>
Aviator Mobile Anchors	<input type="checkbox"/>
Payload Access Ladder Systems	<input type="checkbox"/>
Payload Handrail Systems	<input type="checkbox"/>
Aviator PPE	<input checked="" type="checkbox"/>

To: _____

Location of Training: _____

Certificate Number: _____

Name of trainee: _____ Signed by trainee: _____

Instructor's name: Adrian Stutterheim..... Signed: *Adrian Stutterheim*.....

Date of Training: 00 January 1900

AVIATOR REMOVABLE EYEBOLTS



OPERATING AND DESIGN STANDARDS:

Eurocodes are designated by EN

British standards are designated by BS

BS EN 795:2012 Class A – single anchors, anti-pendulum anchors

- BS 7883: 2005 – Design, selection, installation, use and maintenance for anchors conforming to EN 795
- BSMA 29: 1982 – specification for steel wire rope
- ACR (M) 002:2009
- ACR (CP) 007:2008
- ISO 9001:2008
- ISO 14001:2004
- BS OHSAS 18001:2007
- Work at height regulations 2005 (Ref.7)
- Work at height (amendment) Regulations 2007 (Ref.8) WAHR
- Provision and use of work equipment
- Provision and use of work equipment regulations 1999 PUWER 98 (Ref.5)



The company operates to the following standards



- Management of health and safety at work regulations 1999 MHSWR (Ref.2)
- The work at height safety association WAHSA-guidance on inspecting eyebolts for personal fall protection purposes
- The Building Regulations 2010 part K.

Typical connection loads (Maximum cantilever from face 175mm)

Ultimate factored load on bracket base



Bracket moment



Note: For guidelines only to be checked by Chief Engineer.

COMPONENT PART DETAILS:
Resin fix permanent eyebolts
EBRF370

BIM No: SpecEquip_RfSftySymPermEyeBltCon_SayfaSystems_
 EBRF370_M3_G2



Steelwork permanent eyebolts
EBSF365

BIM No: SpecEquip_RfSftySymPermEyeBltStl_SayfaSystems_
 EBRF365_M3_G2



Timber permanent eyebolt
EBRF390

BIM No: SpecEquip_RfSftySymPermEyeBltTimb_SayfaSystems_
 EBRF390_M3_G2



Resin anchor socket RAS100

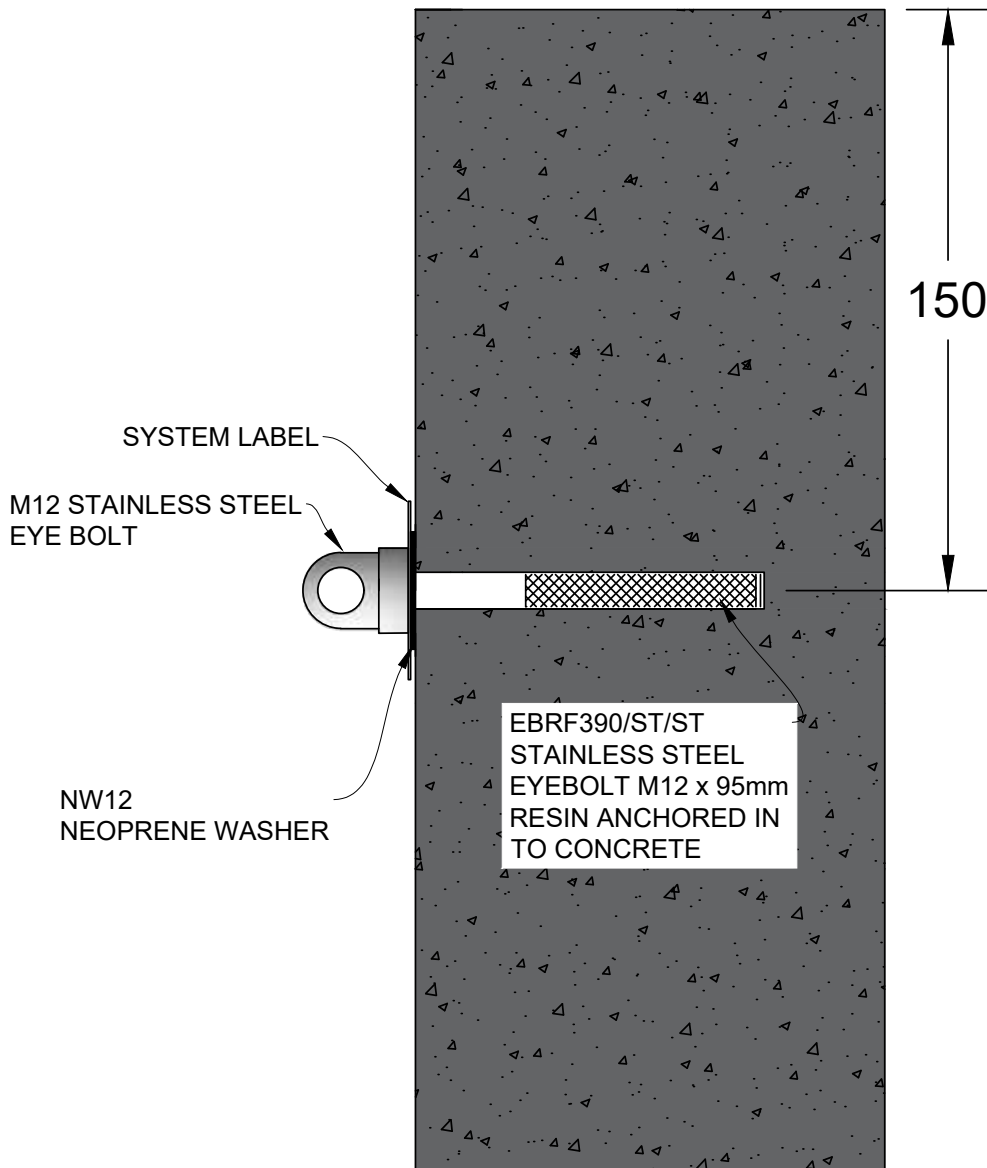
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 RAS100_M3_G2



Aviator™ Permanent Eyebolt System Fixed To Concrete Slab

NOTES:

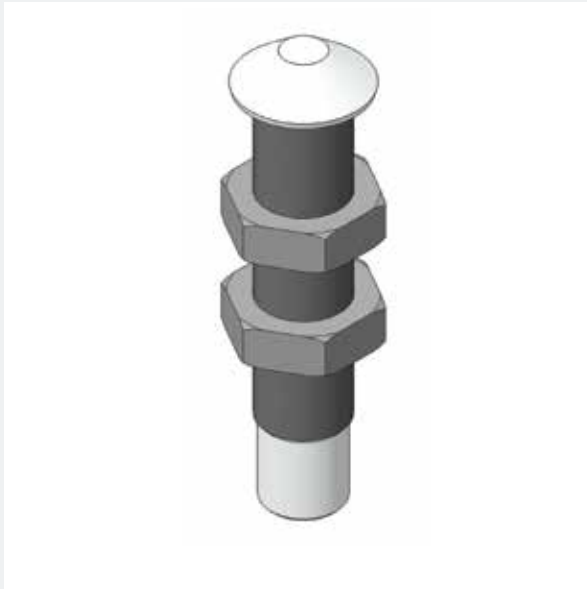
- CONCRETE TO BE MINIMUM 175mm THICK
- 300mm MINIMUM SPACING BETWEEN ANCHORS
- NO TRIAL TEST NEEDED IN CONCRETE UNLESS SUSPECT
- 6kN PROOF TEST REQUIRED
- EACH PROJECT TO BE ASSESSED BY SAYFA SYSTEMS DESIGN & OPERATIONS DEPARTMENTS FOR FEASIBILITY



COMPONENT PART DETAILS:

Eyebolt socket resin fix REK380

BIM No: SpecEquip_RfSftySymRemEyeBltCon_SayfaSystems_REK380_M3_G2



Removable eyebolt key REK385

BIM No: SpecEquip_RfSftySymRemEyeBltCon_SayfaSystems_REK385_M3_G2



Removeable Eyebolt REK390

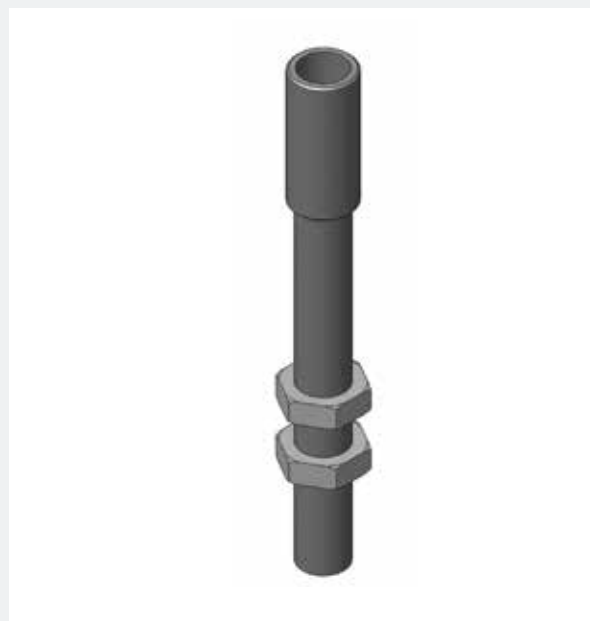
For concrete:
BIM No: SpecEquip_RfSftySymRemEyeBltCon_SayfaSystems_REK370_M3_G2

For steel:
BIM No: SpecEquip_RfSftySymRemEyeBltStl_SayfaSystems_REK390_M3_G2



Socket extension RESE400

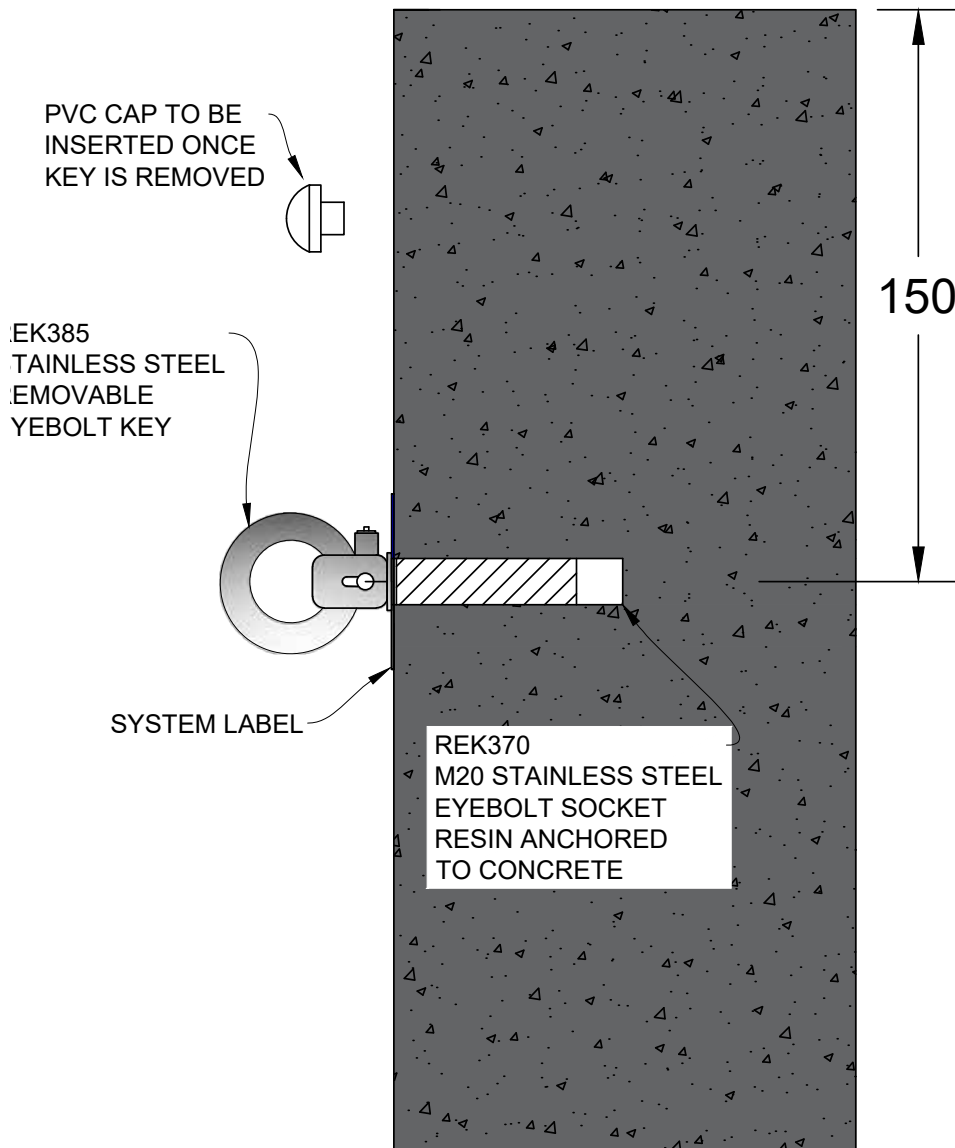
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Aviator™ Removable Eyebolt Fixed To Cast Concrete Slab

NOTES:

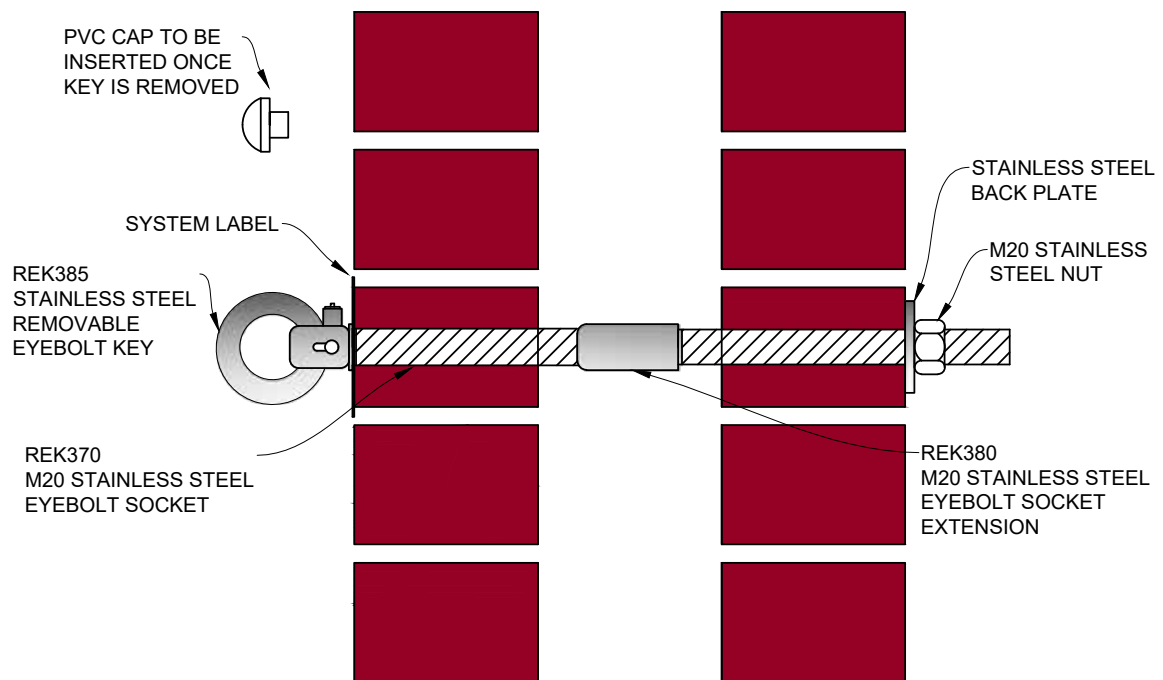
- CONCRETE TO BE MINIMUM 200mm THICK
- 300mm MINIMUM SPACING BETWEEN ANCHORS
- NO TRIAL TEST NEEDED IN CONCRETE UNLESS SUSPECT
- 6kN PROOF TEST REQUIRED
- EACH PROJECT TO BE ASSESSED BY SAYFA SYSTEMS DESIGN & OPERATIONS DEPARTMENTS FOR FEASIBILITY



Aviator™ Removable Eyebolt Fixed In To Brickwork With Cavity

NOTES:

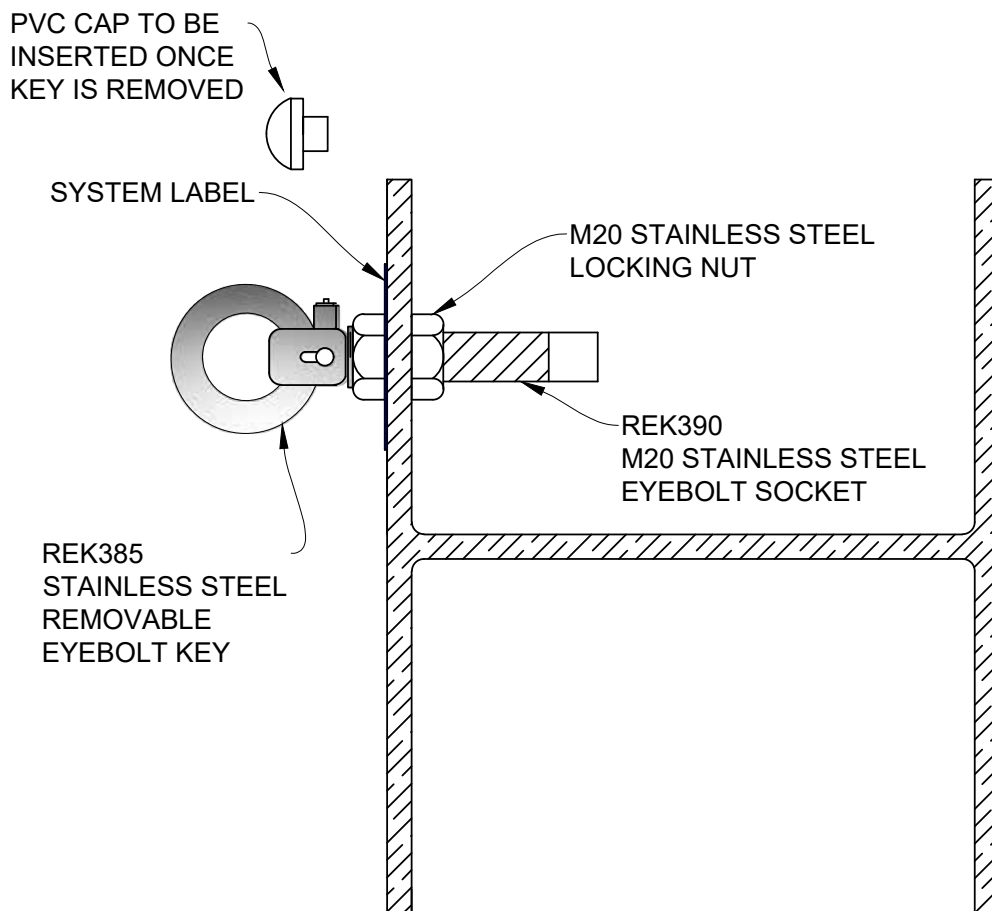
- INSTALLATION ALLOWS FOR ANY THICKNESS OF WALL
- 350mm MINIMUM SPACING BETWEEN ANCHORS (UNRENDERED)
- 500mm MINIMUM SPACING BETWEEN ANCHORS (RENDERED)
- MUST NOT BE LOAD TESTED AT ANY STAGE



Aviator™ Permanent Eyebolt System Fixed To Steelwork

NOTES:

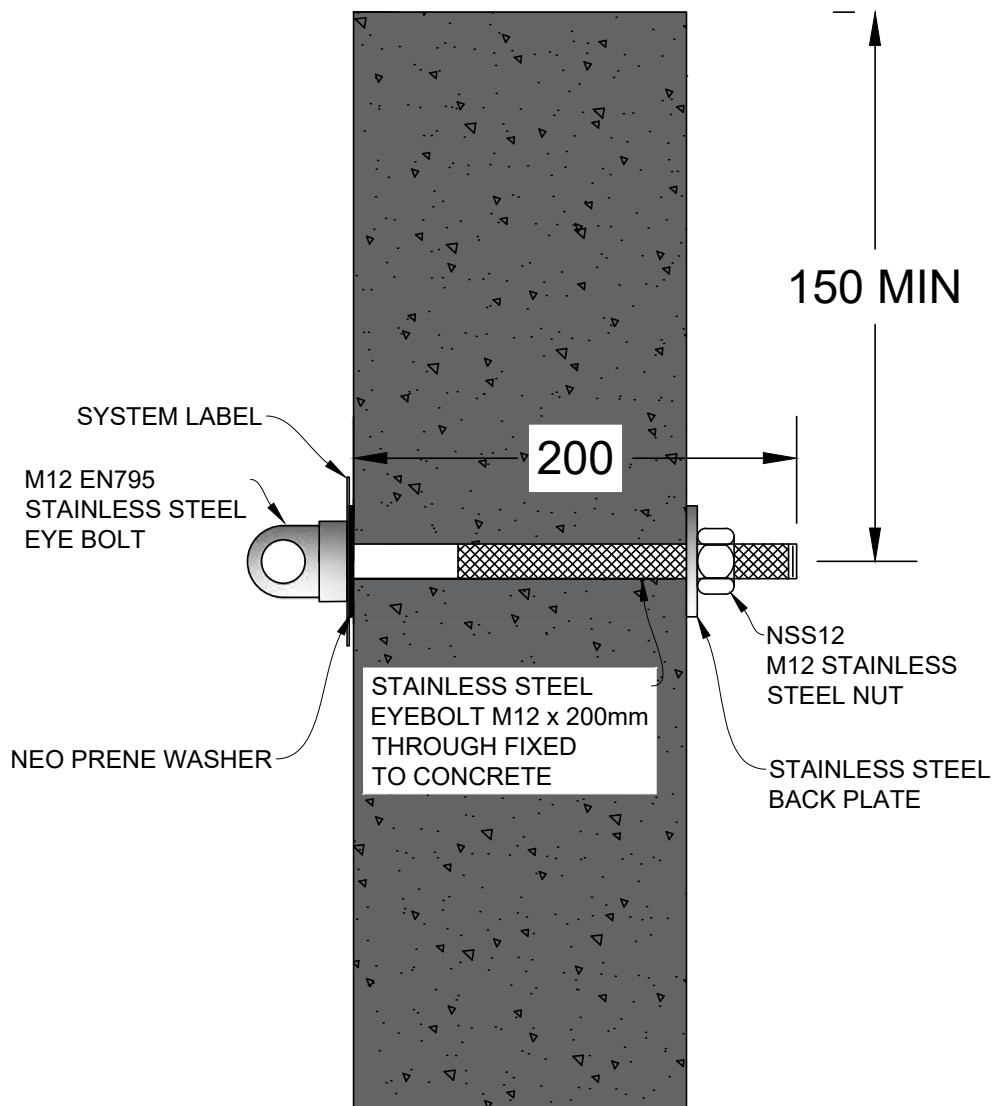
- EYEBOLT REQUIRES MINIMUM 10mm THICKNESS
- MINIMUM 27mm EDGE DISTANCE
- MINIMUM 50mm SPACING BETWEEN ANCHORS
- 6kN PROOF LOAD TEST REQUIRED



Aviator™ Permanent Eyebolt System Fixed To Thin Concrete Slab

NOTES:

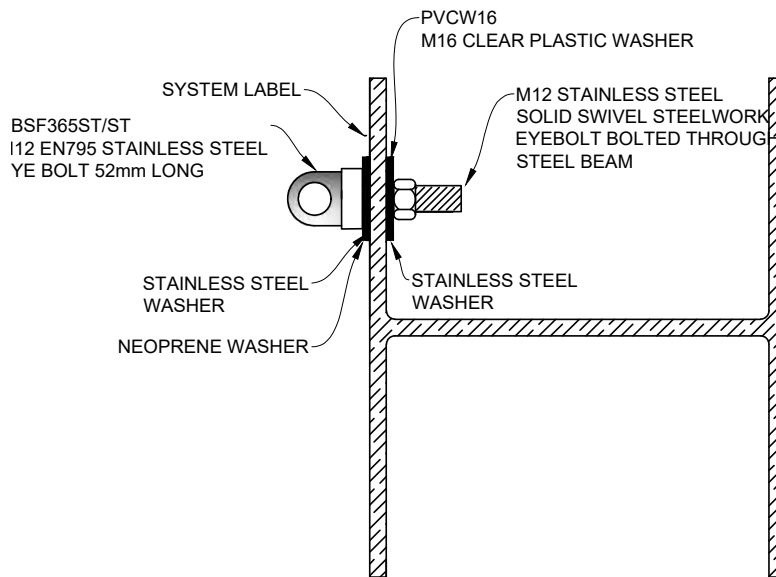
- CONCRETE TO BE 150-175mm THICK
- 300mm MINIMUM SPACING BETWEEN ANCHORS
- NO TRIAL TEST NEEDED IN CONCRETE UNLESS SUSPECT
- 6kN PROOF TEST REQUIRED
- EACH PROJECT TO BE ASSESSED BY SAYFA SYSTEMS DESIGN & OPERATIONS DEPARTMENTS FOR SUITABILITY



Aviator™ Permanent Eyebolt System Fixed To Steelwork

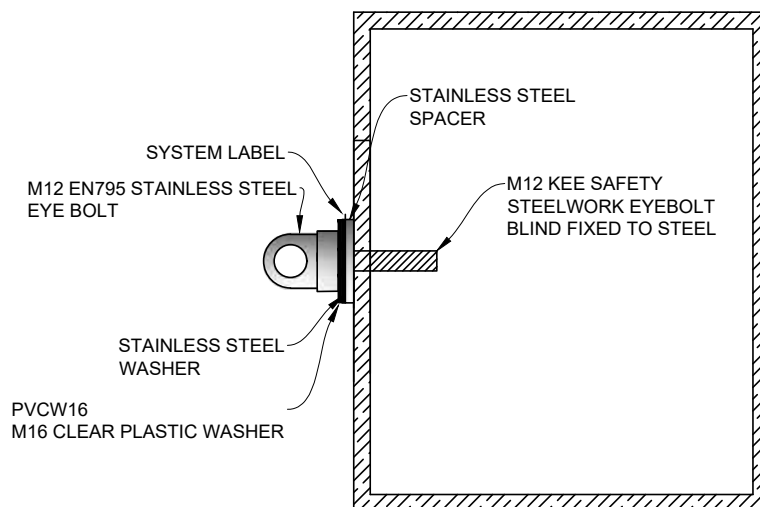
NOTES:

- SOLID SWIVEL EYEBOLT REQUIRES MINIMUM 10mm THICKNESS
- MINIMUM 27mm EDGE DISTANCE
- MINIMUM 50mm SPACING BETWEEN ANCHORS
- NO TRIAL TEST REQUIRED
- 6kN PROOF LOAD TEST REQUIRED
- 14mm COUNTERSUNK HOLE



NOTES:

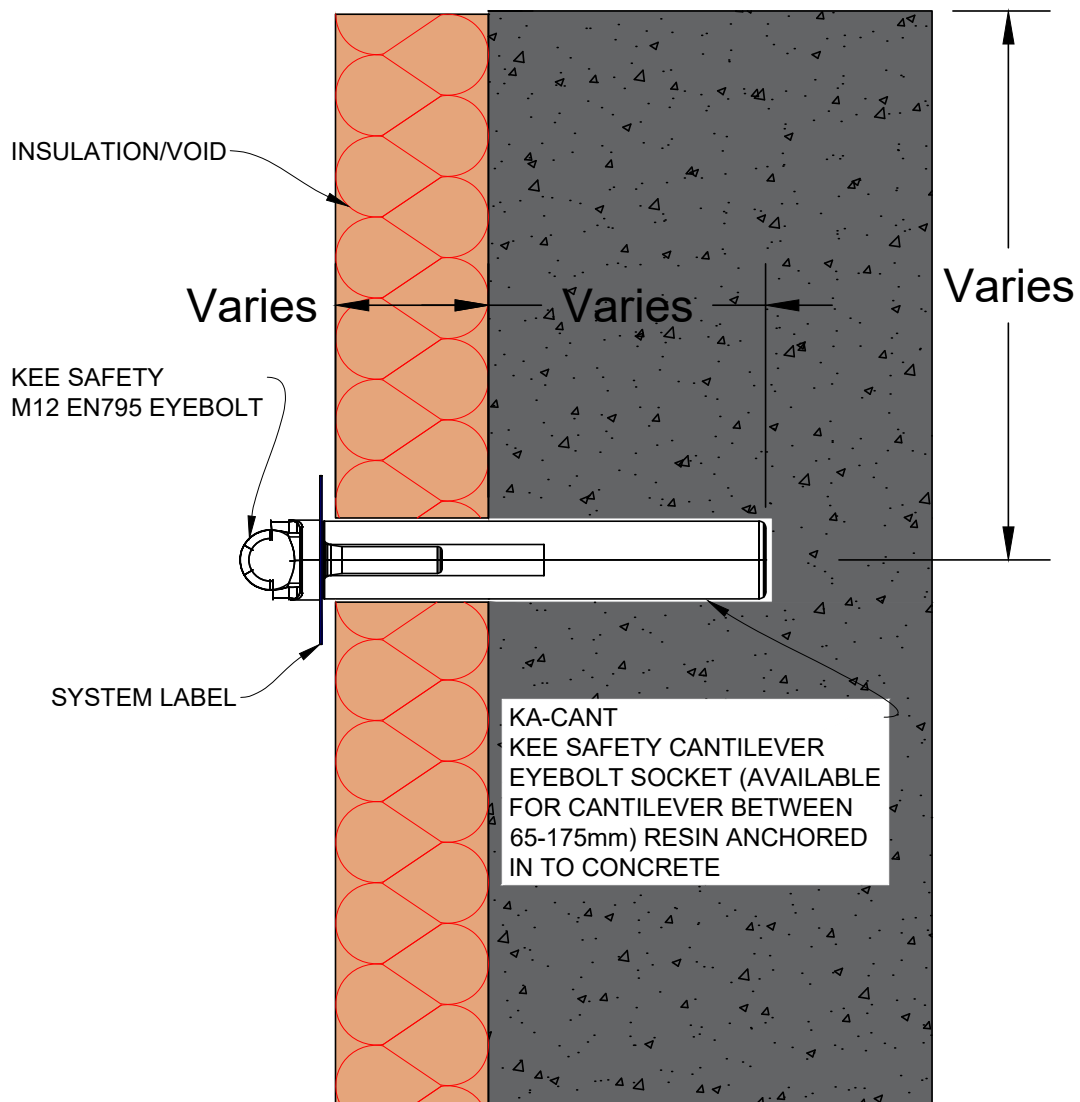
- SOLID SWIVEL EYEBOLT REQUIRES MINIMUM 12mm THICKNESS
- MINIMUM 25mm EDGE DISTANCE
- MINIMUM 50mm SPACING BETWEEN ANCHORS
- NO TRIAL TEST REQUIRED
- 6kN PROOF LOAD TEST REQUIRED
- 10.2mm COUNTERSUNK & TAP M12



Aviator™ Permanent Cantilever Eyebolt Fixed In To Concrete Slab

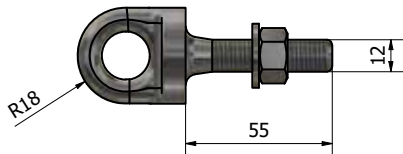
NOTES:

- CONCRETE TO BE MINIMUM 200mm THICK
- 300mm MINIMUM SPACING BETWEEN ANCHORS
- NO TRIAL TEST NEEDED IN CONCRETE UNLESS SUSPECT
- 6kN PROOF TEST REQUIRED
- EACH PROJECT TO BE ASSESSED BY SAYFA SYSTEMS DESIGN & OPERATIONS DEPARTMENTS FOR FEASIBILITY

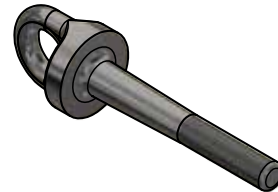
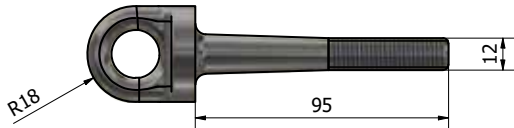


Aviator™ Permanent Eyebolt System Fixed To Concrete Slab

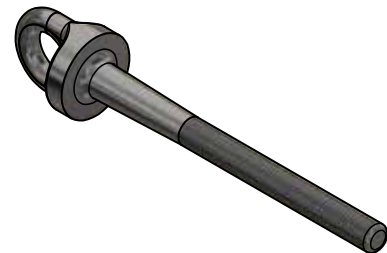
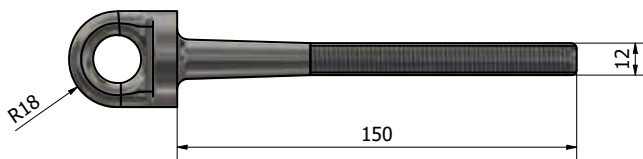
EBSF365ST/ST - M12 EN795 STAINLESS STEEL EYEBOLT 52mm LONG



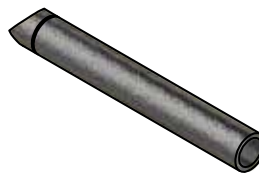
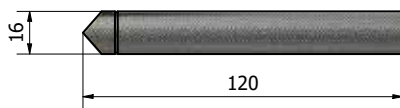
EBRF370ST/ST-100 - ABSEIL EYEBOLT 100mm LONG



EBRF370ST/ST-150 - ABSEIL EYEBOLT 150mm LONG



RAS120 - EYEBOLT SOCKET 120mm





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