017

SAYFA SYSTEMS UK

Aviator®

OVERHEAD AND WALL SYSTEM

PRODUCT DATA SHEET
REPORT NO: 017

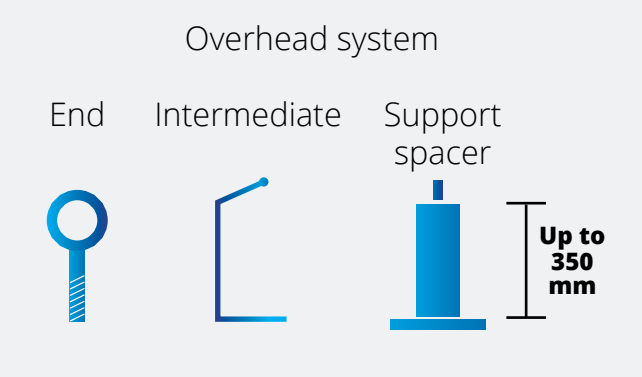
REVISION NO: 002

PRODUCT CODE: OH200

PRODUCT DESCRIPTION:

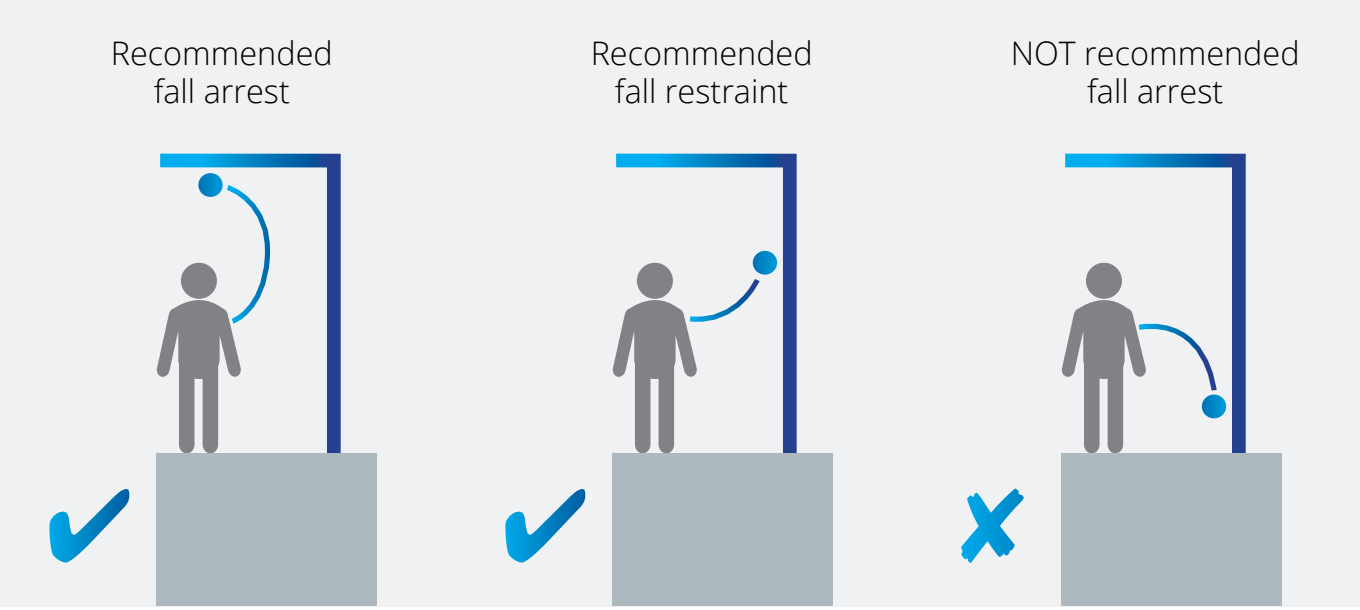
Overhead safety line brackets are designed to be fixed to a structural substrate such as structural steel or concrete to provide suitable connection points for both fall restraint and fall arrest use. The position of the eyebolts in relation to a fall hazard will determine whether the operator is working in fall restraint or fall arrest. Brackets 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 vibration proof nuts. When fixing to a timber structure it may be necessary to provide a backing plate to ensure compliance.

The system comprises of end brackets and intermediate brackets to allow users to have full access along a system without disconnecting. There are no corners on the system and users are provided with a double lanyard to transfer between systems.



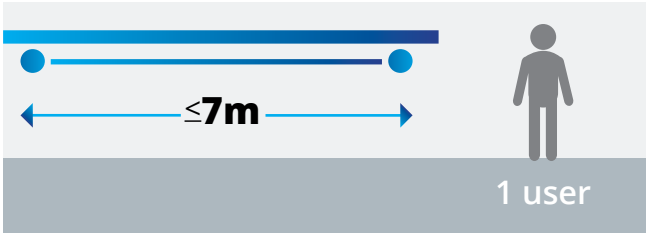
The safety line system is designed to operate as a fall restraint system or a fall arrest system depending on the system layout design. The system can be fitted above or to the side of a work area. When designing a system it is good practice to keep the line above the user rather than low down at foot level. If the line is kept above the work location it will reduce the fall factor considerably. The use of an overhead system together with a Sayfa self-retracting shock absorbing lanyard, will ensure compliance with all industry regulations.

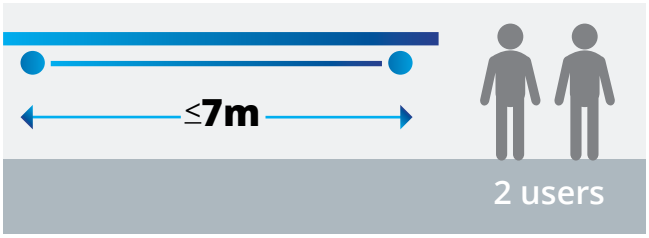
The overhead systems can be designed for up to 2 users at any one time. This will be determined by the distance between the brackets. For fall restraint use, which is highly recommended, the eyebolts need to be positioned at least 2.5m away from any exposed edge. This will allow the operator to access the area using a 2m lanyard connected to a full body harness, safely without risk of falling.



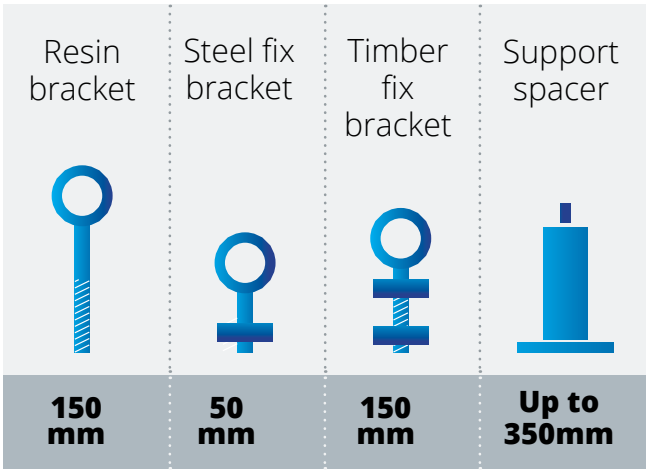
AVIATOR OVERHEAD AND WALL SYSTEM

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 nonoperative personnel during the construction phase and future use.





Length of fixing used will be determined by the requirements of the job. Shorter eyebolts of 50mm are used in structural steel. For timber of sufficient strength the 150mm eyebolt can be used with vibration resistant locking nuts and large washers either side. A minimum thickness of 125mm treated timber is required. Brackets 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. For a standoff, up to 350mm, fit a bracket support post behind the building's façade.



All systems are fitted with in-line shock absorbers . When used together with a shock absorbing lanyard, the system will ensure that no more than 4kN force is exerted on the users at any point in the system. It is important to use the correct PPE which is supplied at time of installation. The use of alternative PPE could result in the system shock absorbers not deploying sufficiently.

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

Support spacer - Galvanised steel

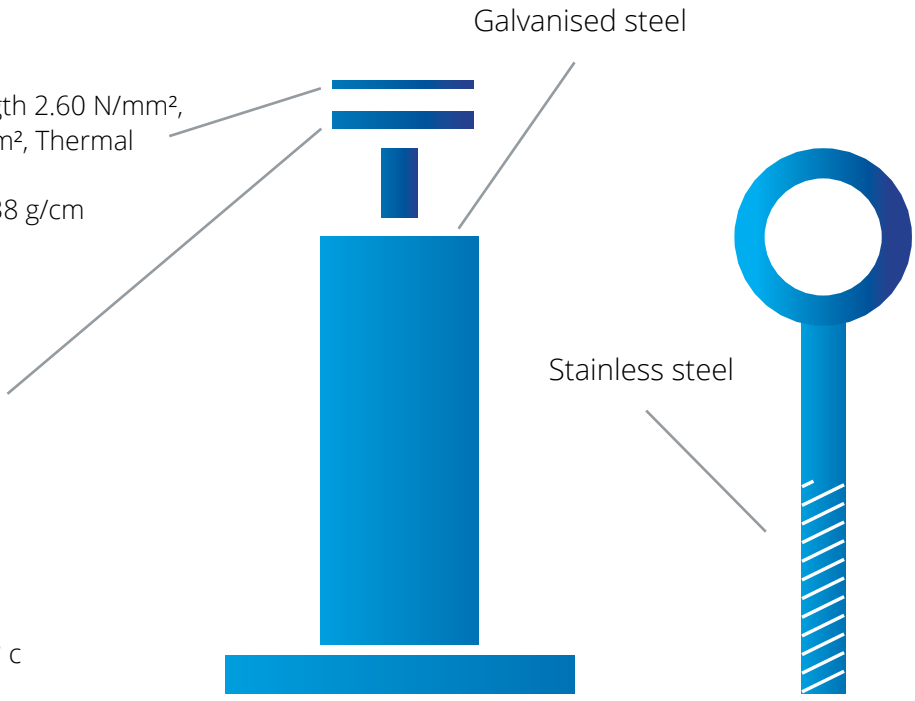
Yield	275 N/mm² C 0.15 – 0.26; Si < 0.35; Mn < 1.5; P < 0.035; S < 0.040; Mo 0.4 – 0.6.
Young's Modulus of Elasticity	200 x 103 MPa at 20 °C
Density	7.87 g/cm3 at 20 °C
Coefficient of Thermal Expansion	Low-Carbon/HSLAS: 12.4 µm/m/°C in 20 °C to 100 °C range I-F Steel: 12.9 µm/m/°C in 20 °C to 100 °C range
Thermal Conductivity	Low-Carbon/HSLAS: 89 W/m°C at 20°C I-F Steel: 93 W/m°C at 20°C
Specific Heat	481 J/kg/°C in 50 °C to 100 °C range
Electrical Resistivity	0.142 µΩ•m at 20 °C

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

Neoprene washer

Elastomer – Neoprene
Colour – Black
Quality – Commercial Grade - c20
Hardness - 65° shore a +/-5°
S.G. - 1.4G/cm³
Tensile mpa - 5 min
Elongation - 300%
Tear strength - 20 kg/cm
Compression set - 35%
Operating temperature - -20° / +110° c



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.

SAYFA SYSTEMS UK

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 ☒
- Aviator Mobile Anchors ☐
- Payload Access Ladder Systems ☐
- Payload Handrail Systems ☐
- Aviator PPE ☒

To: .....

Location of Training: .....0.....

Certificate Number: .....

Name of trainee: ..... Signed by trainee: .....

Inductor's name: Adrian Stutterheim..... Signed: Adrian Stutterheim.....

Date of Training: 00 January 1900 .....

Aviator Payload

OPERATING AND DESIGN STANDARDS:

BS EN ISO Standards

Eurocodes are designated by EN

British standards are designated by BS

- BS EN 795:2012 Class C – flexible safety lines
- 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 regulations 1998 PUWER 98 (Ref. 5)
- PD CEN/TS 16415:2013 Multiple users

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 used for personal fall protection purposes

Typical connection loads (bracket height up to 150mm)

Ultimate factored load on bracket base

Bracket moment

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

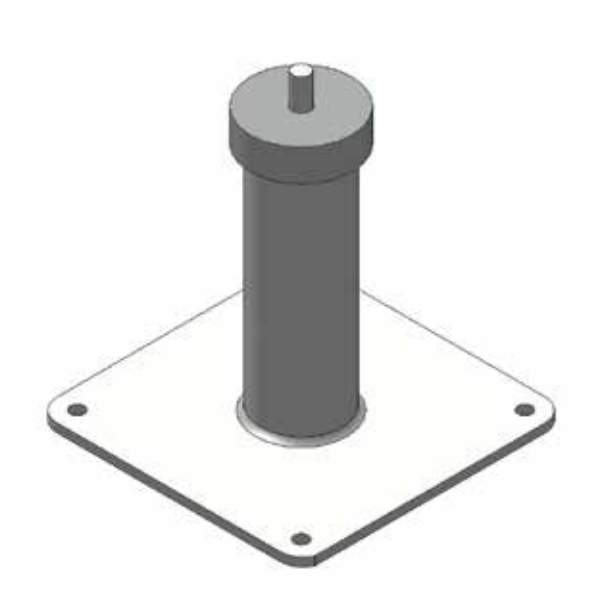
COMPONENT PART DETAILS:

Overhead end bracket OH265

BIM No: SpecEquip_RfSftySymConcOvrHdEndBkt_SayfaSystems_OH265_M3_G2

Support spacer GRB200

BIM No: SpecEquip_RfSftySymBuiltUpEndBkt_SayfaSystems_GRB200_M3_G2



In line shock absorber SAU260

BIM No: SpecEquip_RfSftySymShkAbs_SayfaSystems_SAU260_M3_G2

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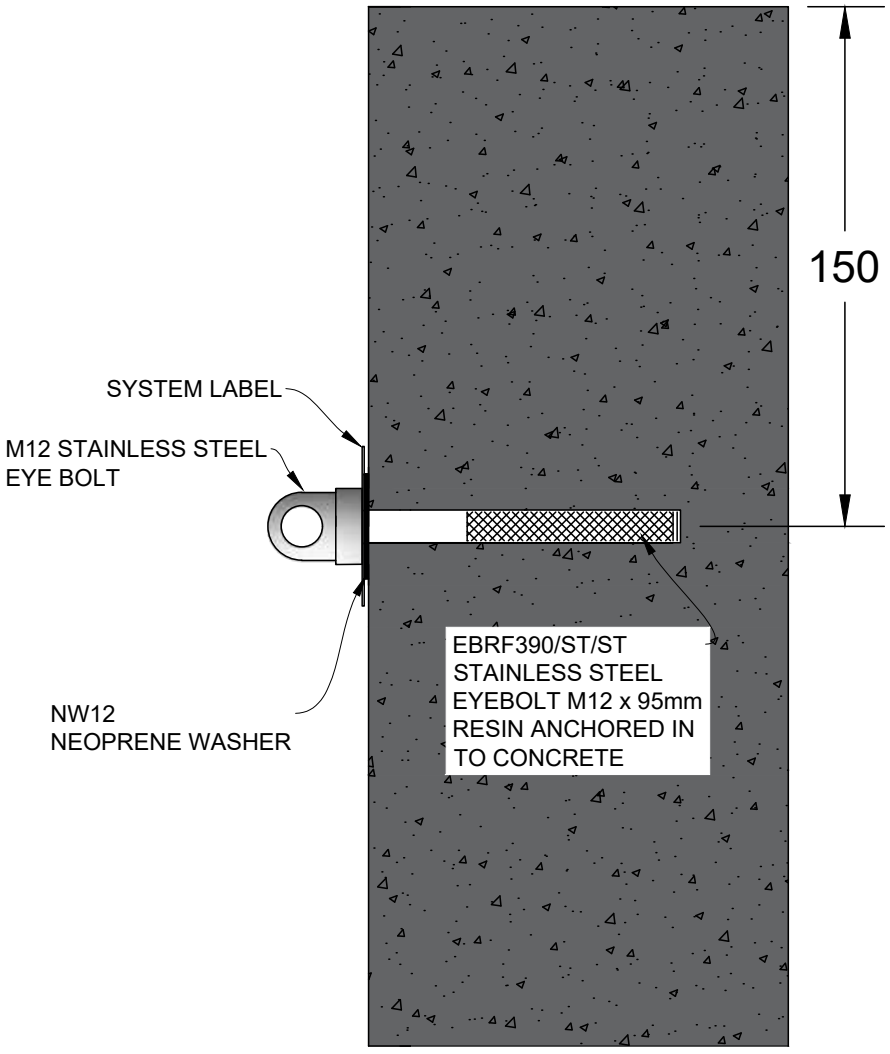
Aviator™ Permanent Eyebolt System Fixed To Concrete Slab

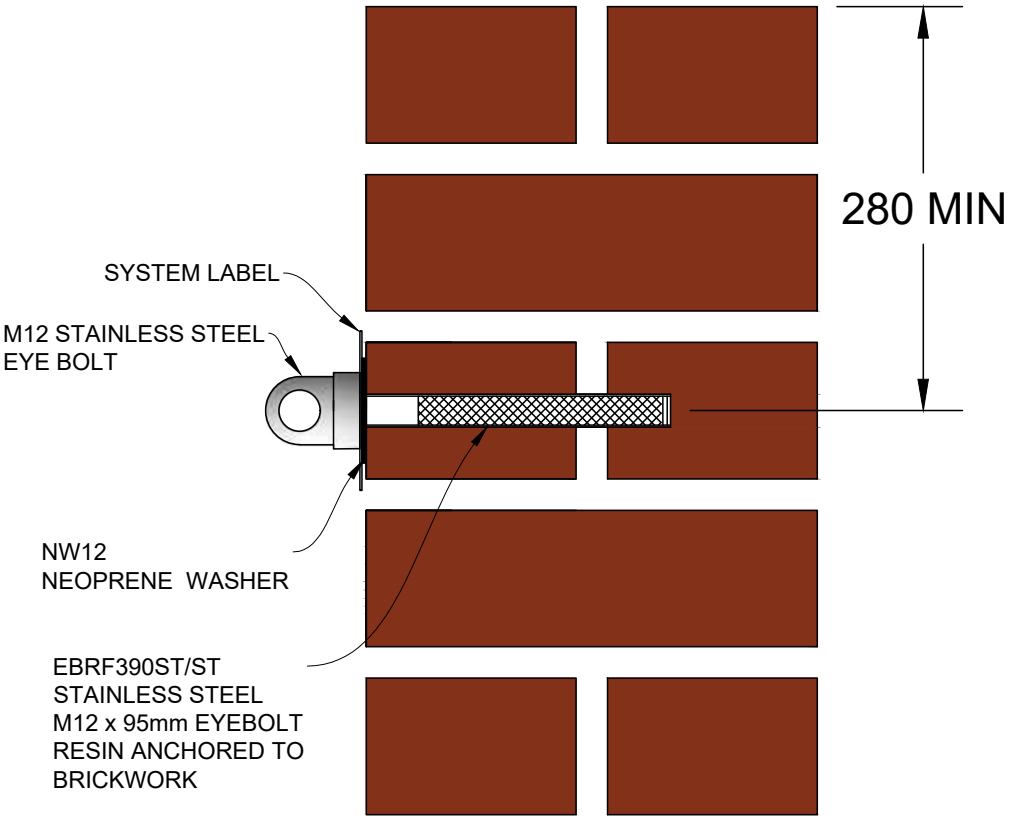
NOTES:

- 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



Aviator™ Permanent Eyebolt System Fixed To Solid Brickwork/ Stonework

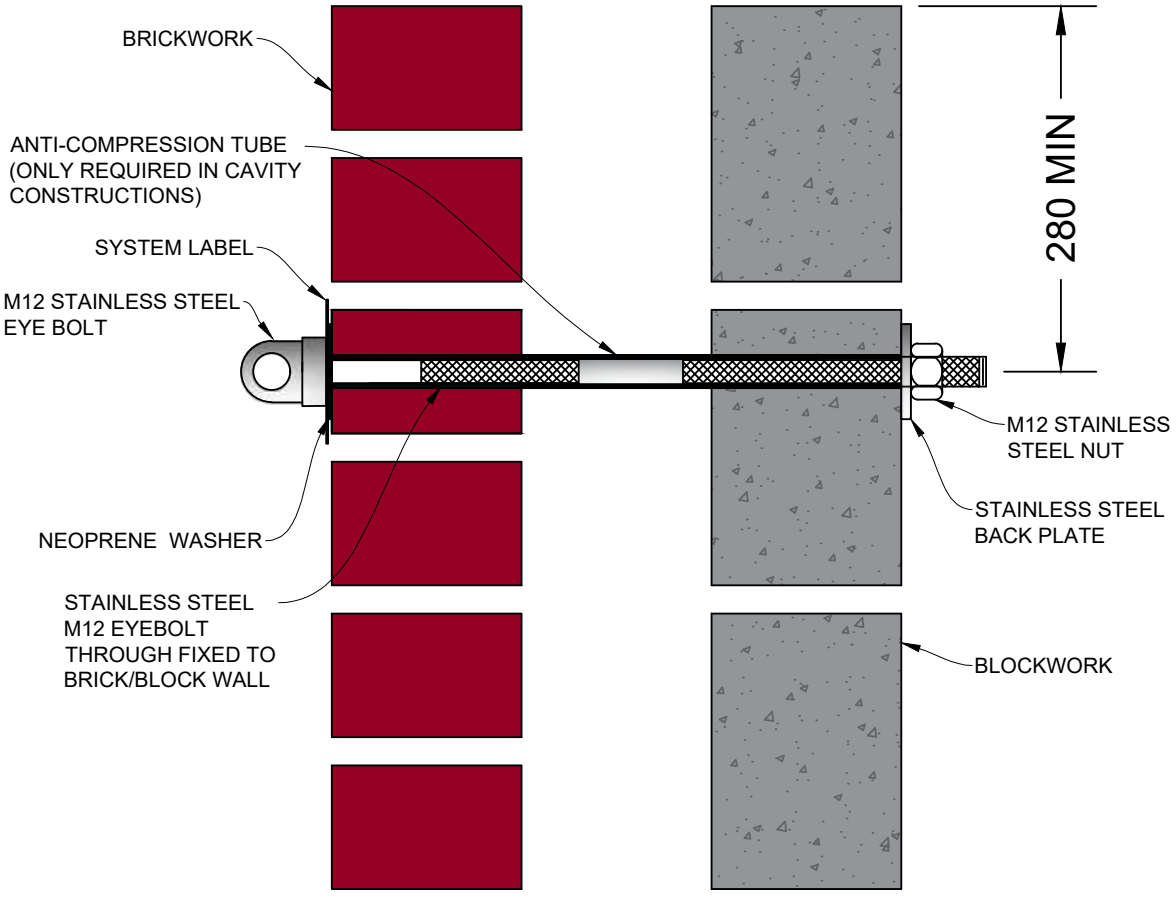
- SOLID BRICKWORK/STONEWORK TO BE MINIMUM 215mm THICK
- 350mm MINIMUM SPACING BETWEEN ANCHORS (UNRENDERED)
- 500mm MINIMUM SPACING BETWEEN ANCHORS (RENDERED)
- 12kN TRIAL TEST NEEDED
- 6kN PROOF TEST REQUIRED
- FIXING TO NON LOAD BEARING STRUCTURES SUBJECT TO STRUCTURAL CALCULATIONS



Aviator™ Permanent Eyebolt System Fixed To Brickwork With Cavity

NOTES:

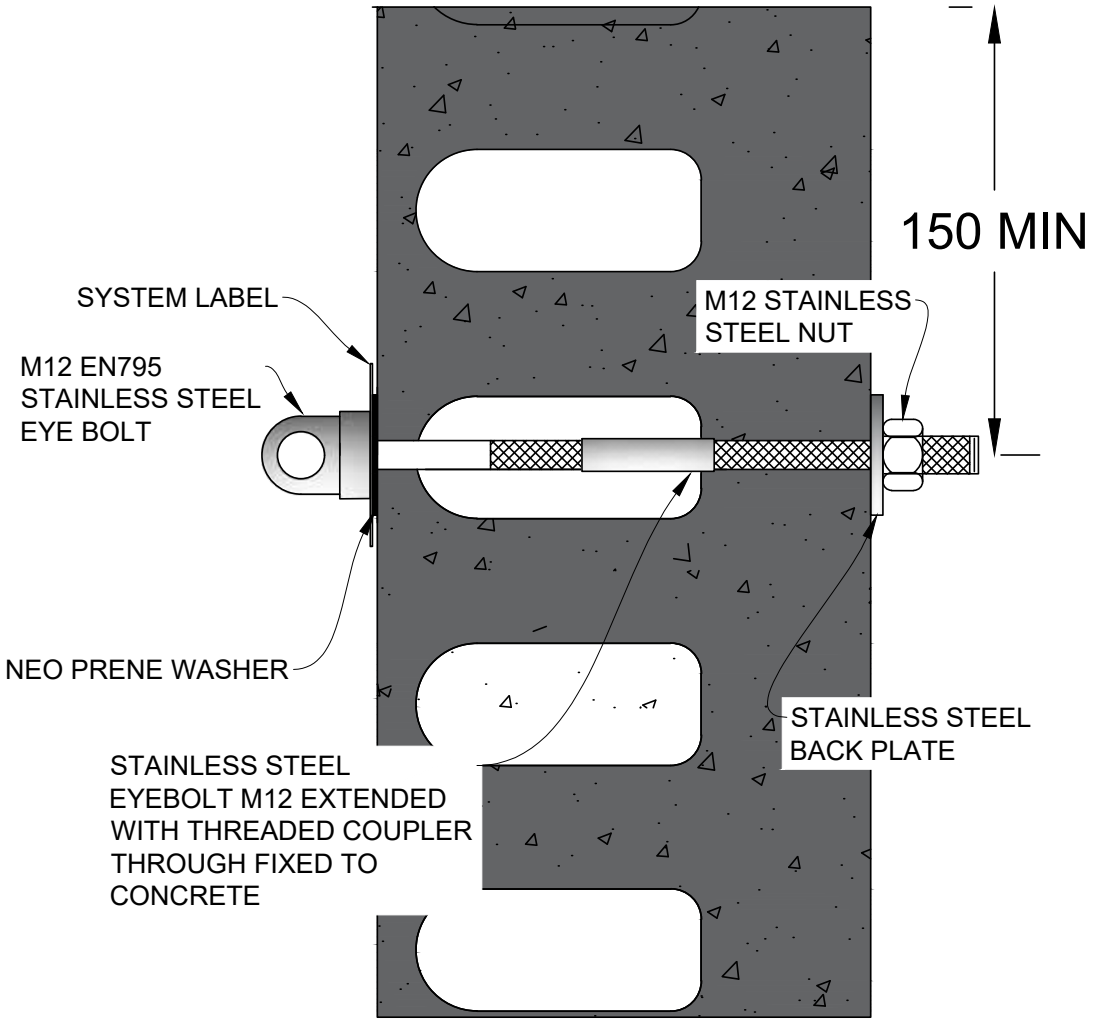
- INSTALLATION ALLOWS FOR ANY THICKNESS OF WALL
- 350mm MINIMUM SPACING BETWEEN ANCHORS (UNRENDERED)
- 500mm MINIMUM SPACING BETWEEN ANCHORS (RENDERED)
- MUST NOT BE LOAD TESTED AT ANY STAGE



Aviator™ Permanent Eyebolt System Fixed To Hollowcore Concrete Slab

NOTES:

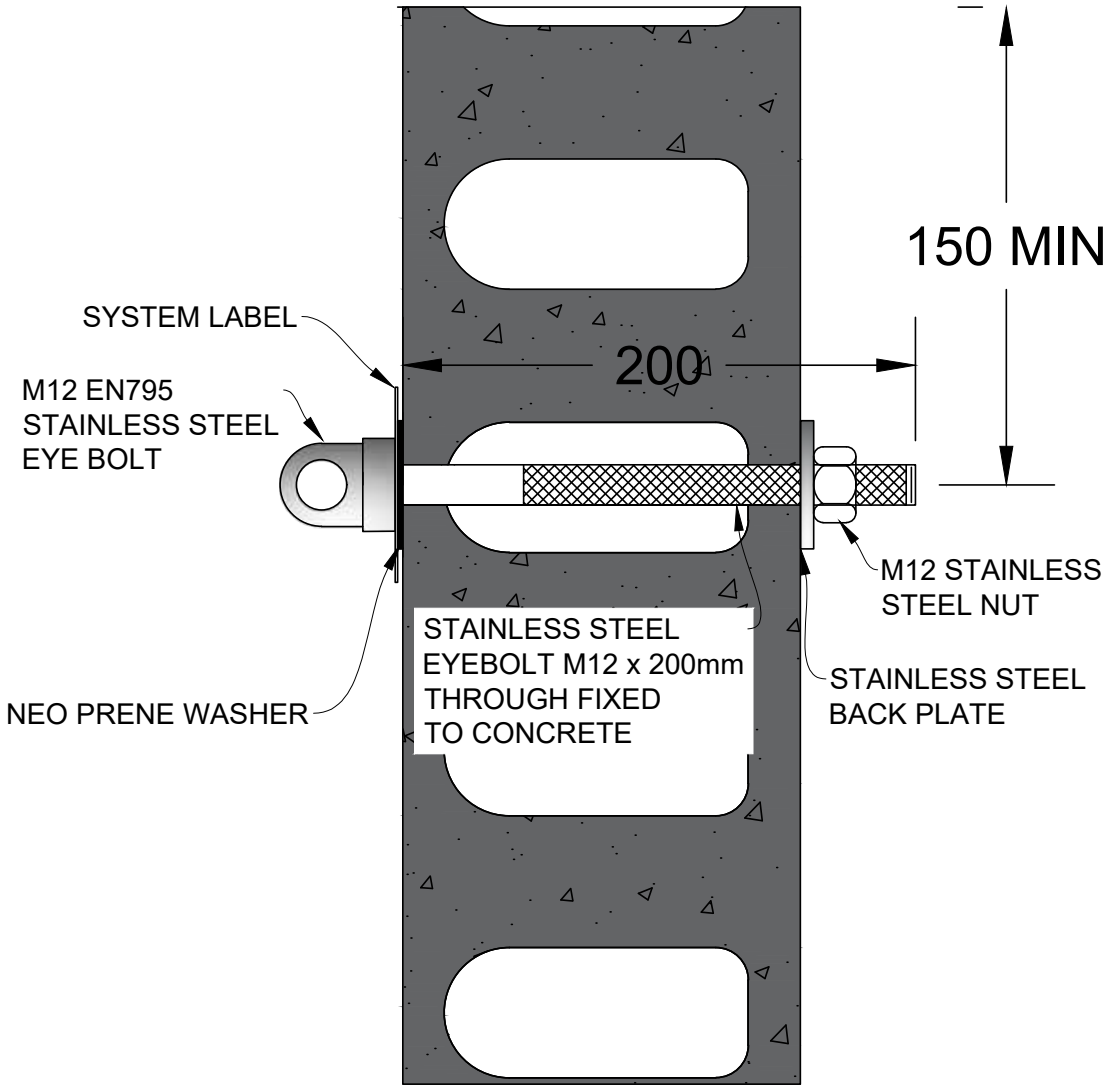
- CONCRETE TO BE MINIMUM 176mm THICK
- 300mm MINIMUM SPACING BETWEEN ANCHORS
- NO TRIAL TEST NEEDED IN CONCRETE
- 6kN PROOF TEST REQUIRED OR TIGHTEN TO REQUIRED TORQUE



Aviator™ Permanent Eyebolt System Fixed To Thin Hollowcore Concrete Slab

NOTES:

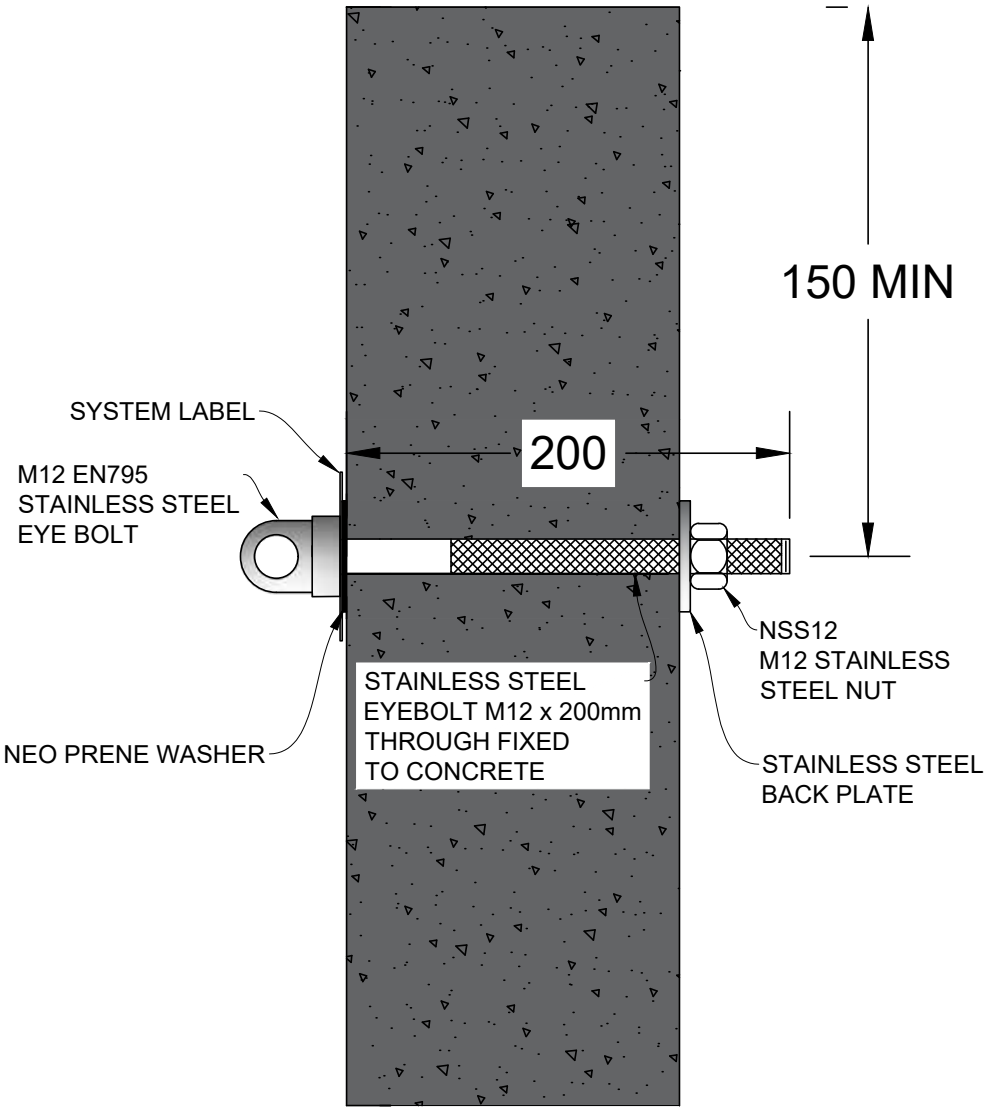
- CONCRETE TO BE 150-175mm THICK
- 300mm MINIMUM SPACING BETWEEN ANCHORS
- NO TRIAL TEST NEEDED IN CONCRETE
- 6kN PROOF TEST REQUIRED



Aviator™ Permanent Eyebolt System Fixed To Thin Concrete Slab

NOTES:

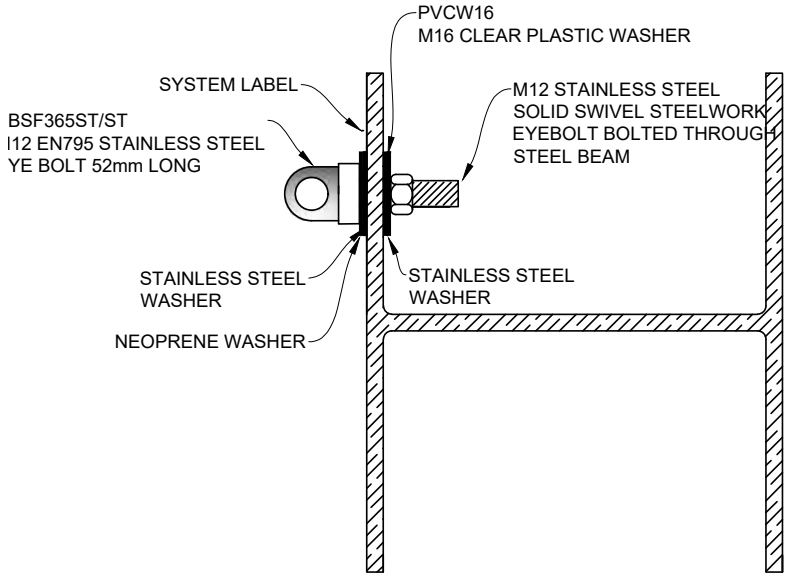
- CONCRETE TO BE 150-175mm THICK
- 300mm MINIMUM SPACING BETWEEN ANCHORS
- NO TRIAL TEST NEEDED IN CONCRETE UNLESS SUSPECT
- 6kN PROOF TEST REQUIRED
- EACH PROJECT TO BE ASSESSED BY SAYFA SYSTEMS DESIGN & OPERATIONS DEPARTMENTS FOR SUITABILITY



Aviator™ Permanent Eyebolt System Fixed To Steelwork

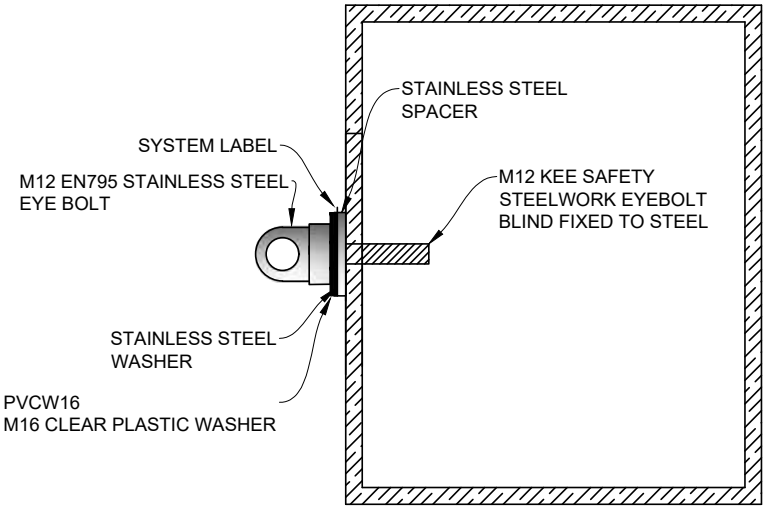
NOTES:

- 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



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Ref: 125/017-11/18