



STAL

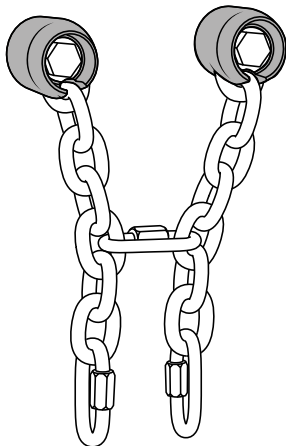
anchors

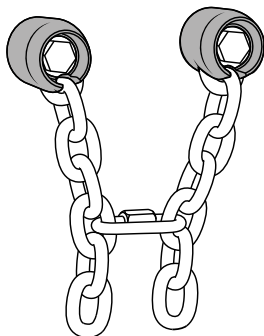
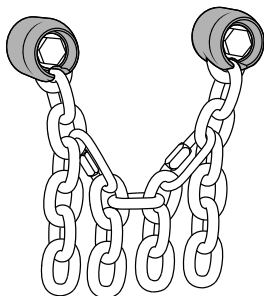
Meets requirements of:
EN795:2012 Type A
CEN/TS 16415:2013
EN12572-1:2017

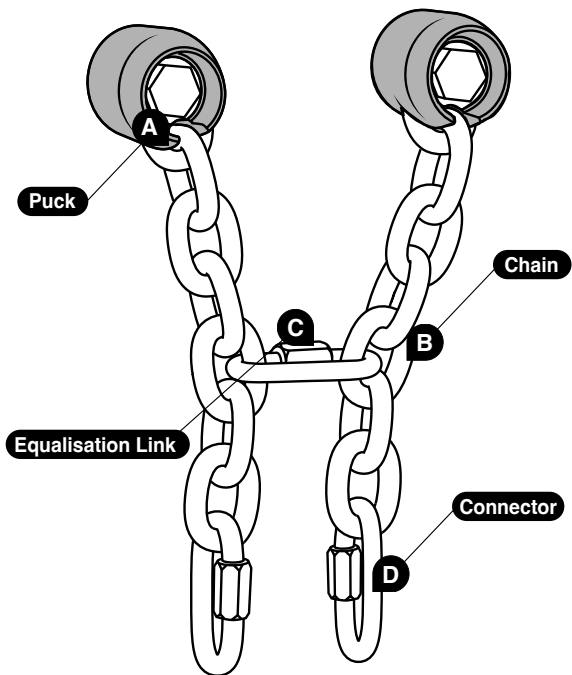


These instructions cover the use of DMM Stal Anchors. If in doubt, please contact your supplier or DMM. This product may be used in conjunction with any appropriate item of Personal Protective Equipment (PPE) relevant to European Union Directive 89/686/EEC / PPE Regulation (EU) 2016/425. It may be acceptable for use in other applications, please consult DMM or your supplier. This equipment is designed for personal fall protection and load limits must not be exceeded, nor be used for lifting, or any purpose other than that for which it is designed. The anchor will not deform more than 10mm in the direction of loading. **WARNING:** If you are in any doubt about the safe condition of this product, stop use and replace it immediately. Ensure that the instructions for other components used in conjunction with this product are complied with. It is the user's responsibility to ensure that they understand the correct and safe use of this product. This product is designed for use in normal climatic conditions (-40°C or +50°C). It may be suitable for other conditions, please consult your supplier. No responsibility will be accepted by DMM for damage, injury or death resulting from misuse. If in doubt contact your supplier or DMM. No special transportation precautions are necessary; however, avoid all contact with chemical reagents or other corrosive substances. Care must be taken to avoid loading this product over edges and other obstructions. Check the anticipated orientation during loading before use.

Stal Anchors



**ST-SSTP****ST-SSTPQ**



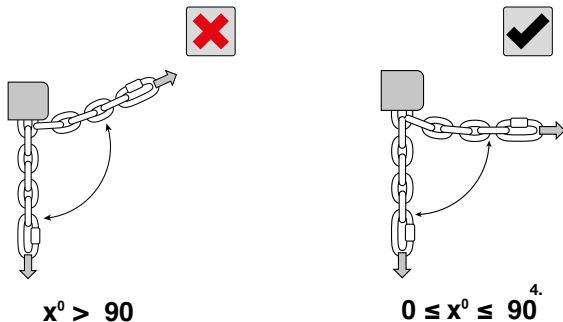
4

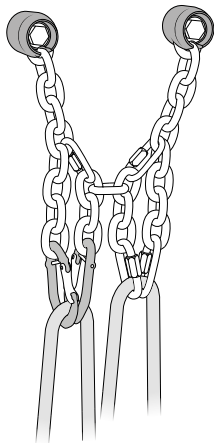
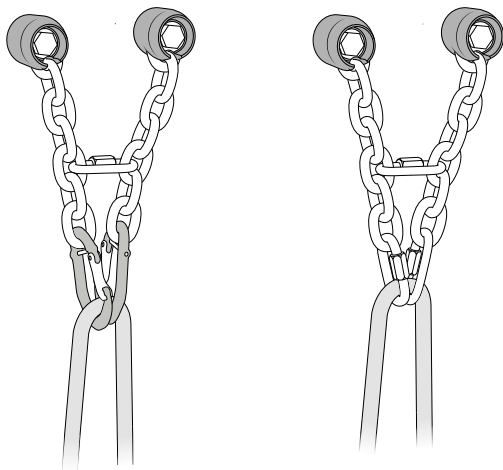
Fixings (Not Supplied)

Suitability of the fixings should be verified by calculation or testing by a suitably qualified and experienced person, The anchor must be installed using ONLY bolts, screws and studs meeting the following requirements: DIN ES ISO 898 compliant - M10 class 12.9, M12 class 8.8 or 9.8 or 10.9 or 12.9, DIN ES ISO 3506-1 compliant - M12 A4-70 or M12 A4-80. All bolt or screw heads must be hexagonal heads. All nuts must be nylock, pinned or double nutted. Where possible, use bolts with a shank length of at least 30mm to reduce wear on the top link of chain. Thread protrusion and fixing torque should be determined from the fixing manufacturers guidance - typically 40 - 70Nm, depending on fixing size, material, nut and threadlock 100Nm (74ft-lb) must not be exceeded. Dissimilar metals should be isolated to avoid galvanic corrosion. Environment should be evaluated according to ISO 9223. Stal is ONLY suitable in corrosivity categories C1 (very low) to C3 (medium). Fixings should reflect the corrosivity of the environment, for example 316 / 316L stainless steel hardware should be used in a C3 environment. you may use non 316 wear parts/ consumables e.g connectors and adopt a more frequent inspection regime.

5

Installations





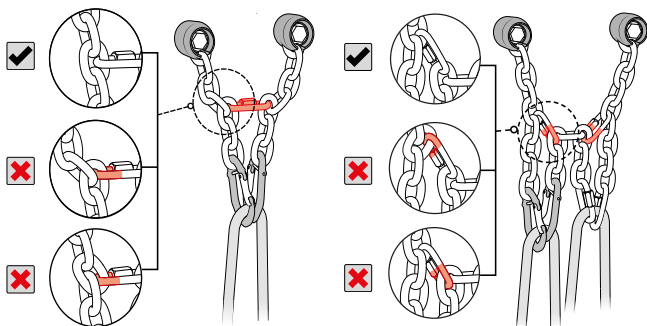
6 Inspections

A detailed and recorded inspection is to be conducted by a competent person at least once every 12 months, however the frequency should be increased depending on current regulations in your country or your conditions of usage (for example: high usage or corrosive environments).

The inspection should include checking the main bolt is torqued, no link of chain has been worn to a diameter less than 9mm and there is no deformation, cracks or sharp edges.

Where present, check the equalisation link has not un-screwed. A removal and re-install inspection to verify the condition of attachment bolts is recommended at 10 year intervals, however the frequency may be increased depending on current regulations in your country or your conditions of usage (for example: high usage or corrosive environments).

Pre-use and continual checks are required to ensure the continued safe use of the equipment.



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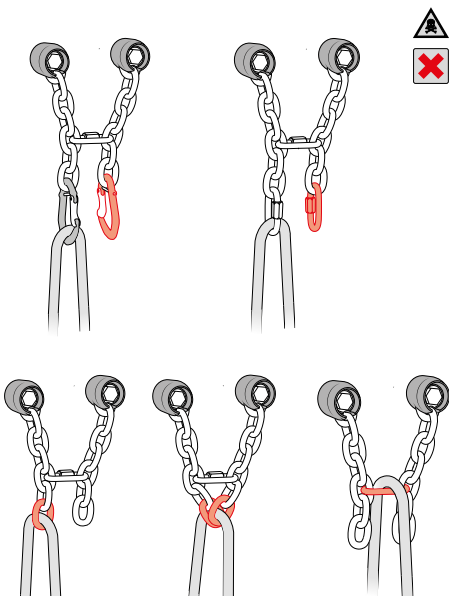
Removal

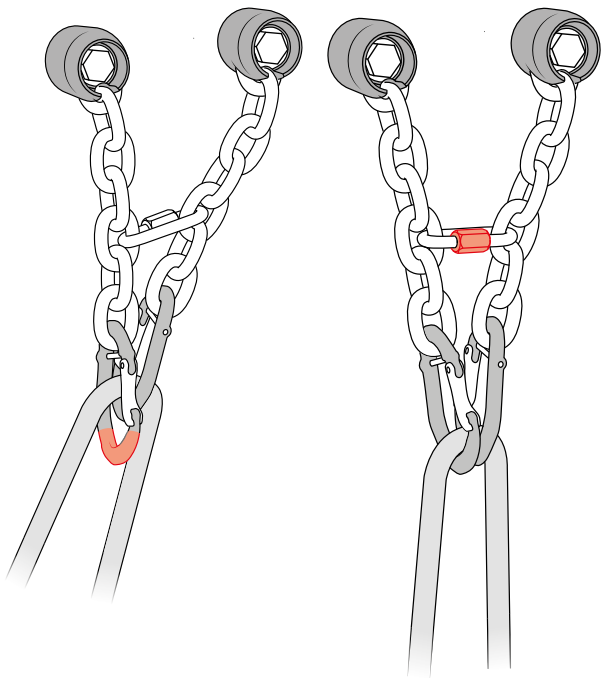
To remove the anchor, remove the fixings from the puck and top link of chain before reusing the anchor, carry out a detailed inspection (as per 6.2) of stal anchor and inspect fixings as per fixing manufacturer guidance.

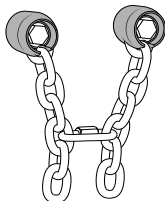
Warning: Do not re-use nylock nuts.

8

Incorrect Usage







EN Prevent contact with chemical reagents.

FR Éviter le contact avec des réactifs chimiques.

DE Vermeiden Sie den Kontakt mit Chemikalien.

IT Impedire il contatto con i reagenti chimici.

ES Evitar contacto con reactivos químicos.

PT Evite contacto com reagentes químicos.

NL Contact met chemicaliën vermijden.

NB Unngå kontakt med kjemiske stoffer.

SV Undvik kontakt med kemiska reagenser.

FI Älä päästä kosketuksiin kemiallisten reagenssien

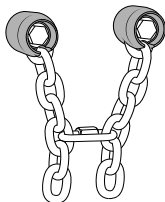
kanssa.

DA Undgå kontakt med kemiske midler.

PL Nie dopuścić do kontaktu z odczynnikami chemicznymi.

CS Nevystavovat působení chemických činidel.

SK Predchádzajte kontaktu s chemickými reaktantmi.



EN Do not mark or alter. Not user repairable.

FR Ne pas marquer ni modifier. Ne peut pas être réparé.

DE Nicht markieren oder verändern. Kann vom Anwender nicht repariert werden.

IT Non marcare né alterare.

Non riparabile dall'utente.

ES No marcar ni modificar.

EI usuario no puede realizar la reparación.

PT Não marque nem altere. Não reparável pelo utilizador.

NL Niet markeren of veranderen. Niet te repareren door gebruiker.

NB Ikke marker eller endre. Kan ikke repareres av brukeren.

SV Märk eller ändra inte. Kan inte repareras av användaren.

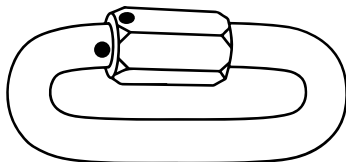
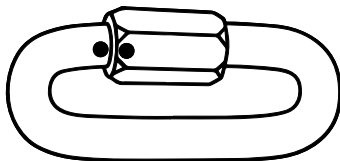
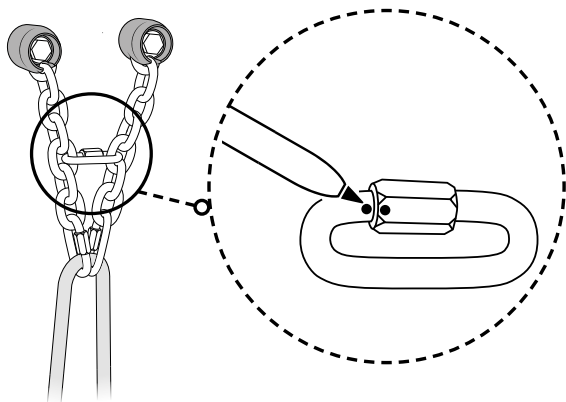
FI Älä merkitse tai muuta. Ei käyttäjän korjattavissa.

DA Må ikke markeres eller ændres. Kan ikke repareres af brugeren.

PL Nie oznaczać, nie modyfikować. Nie naprawiać samemu.

CS Neznačovat ani neměnit. Není opravitelné uživatelem.

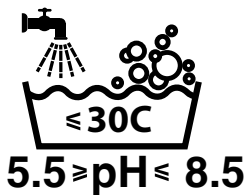
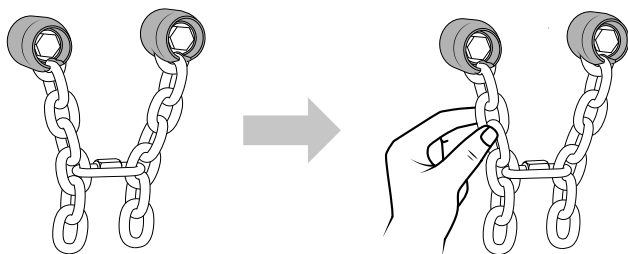
SK Neznačujte ani neupravujte. Nemôže opravovať používateľ.



EN Inspection and Maintenance.
FR Inspection et entretien.
DE Inspektion und Wartung.
IT Ispezione e manutenzione.

ES Inspección y mantenimiento.
PT Inspeção e manutenção.
NL Inspectie en onderhoud.
NB Inspeksjon og vedlikehold.

SV Inspektion och underhåll.
FI Tarkastus ja huolto.
DA Inspektion og vedligeholdelse.
PL Inspekcja i konserwacja.



Notes

1) Warning

1.1 These instructions cover the use of DMM Stal Anchors. If in doubt, please contact your supplier or DMM.

1.2 This product may be used in conjunction with any appropriate item of Personal Protective Equipment (PPE) relevant to European Union Directive 89/686/EEC / PPE Regulation (EU) 2016/425. It may be acceptable for use in other applications, please consult DMM or your supplier.

1.3 This equipment is designed for personal fall protection and load limits must not be exceeded, nor be used for lifting, or any purpose other than that for which it is designed.

1.4 The anchor will not deform more than 10mm in the direction of loading.

1.5 WARNING: If you are in any doubt about the safe condition of this product, stop use and replace it immediately.

1.6 Ensure that the instructions for other components used in conjunction with this product are complied with. It is the user's responsibility to ensure that they understand the correct and safe use of this product.

1.7 This product is designed for use in normal climatic conditions (-40°C or +50°C). It may be suitable for other conditions, please consult your supplier.

1.8 No responsibility will be accepted by DMM for damage, injury or death resulting from misuse. If in doubt contact your supplier or DMM.

1.9 No special transportation precautions are necessary; however, avoid all contact with chemical reagents or other corrosive substances.

1.10 Care must be taken to avoid loading this product over edges and other obstructions. Check the anticipated orientation during loading before use.

2) Products

2.1 The Stal anchor system conforms to (and is suitable for)

2.1.1 EN 795:2012 Type A – single person use – anchor device with one or more stationary anchor points, while in use, and with the need for a structural anchor(s) or fixing element(s) to fix to the structure.

2.1.2 CEN/TS 16415:2013 Type A – four-person use – anchor device with one or more stationary anchor points, while in use, and with the need for a structural anchor(s) or fixing element(s) to fix to the structure.

2.1.3 EN 12572-1:2017 – safety requirements and test methods for artificial climbing structures with protection points.

3) Components

(A) Puck: Nylon

(B) Chain: 10mm short link chain AISI 316L

(C) Equalisation Link: 7mm Stainless Quick Link Connector is also 316L

(D) Connector: see connector manufacturers instructions

(E) Fixings

4) Fixings (not supplied)

4.1 Suitability of the fixings should be verified by calculation or testing by a suitably qualified and experienced person.

4.2 The anchor must be installed using ONLY bolts, screws and studs meeting the following requirements:

4.2.1 DIN ES ISO 898 compliant - M10 class 12.9, M12 class 8.8 or 9.8 or 10.9 or 12.9

4.2.2 DIN ES ISO 3506-1 compliant - M12 A4-70 or M12 A4-80

4.3 All bolt or screw heads must be hexagonal heads. All nuts must be nylock, pinned or double nutted.

4.4 Where possible, use bolts with a shank length of at least 30mm to reduce wear on the top link of chain.

4.5 Thread protrusion and fixing torque should be determined from the fixing manufacturers guidance. 100N/m (74ft-lb) must not be exceeded.

4.6 Environment should be evaluated according to ISO 9223. Stal is ONLY suitable in corrosivity categories C1 (very low) to C3 (medium).

4.7 Fixings should reflect the corrosivity of the environment. Dissimilar metals should be isolated to avoid galvanic corrosion for example 316 / 316L stainless steel hardware should be used in a C3 environment. You may use non 316 wear parts/ consumables e.g connectors and adopt a more frequent inspection regime.

5) Installation

5.1 Ensure the fixing is passed through the puck, top link of chain, and sub-structure.

WARNING: Loadbearing capacity can be dramatically reduced if the structure it is connected to is not suitable (e.g. soft rock or insufficiently strong sub-structure).

5.2 Direction of Load. The anchor must be positioned so that the direction of load is equalised between the two chains and is below the Pucks – angle of load must be under 90°. (Figure 3)

5.3 Ensure that the angle between each length of chain and the vertical does not exceed 60°.

5.4 When used in artificial climbing structures, the anchors should be installed as per BS/EN 12572-1.

5.5 When used as an anchor device the installer should provide to the user, the guidance listed in A.2. EN795 Annex.

5.6 When the anchor device is used as part of a fall arrest system, the user shall be equipped with a means of limiting the maximum dynamic forces exerted on the user to a maximum of 6 kN.

5.7 Maximum loads should be calculated by a structural engineer.

5.8 After installation, verify that the chain moves freely and is not twisted.

5.9 Ensure that when the connectors are loaded the angle between each length of chain and the vertical does not exceed 60°.

6) Inspection

6.1 A detailed and recorded inspection is to be conducted by a competent person at least once every 12 months, however the frequency shall be increased depending on current regulations in your country or your conditions of usage (for example: high usage or corrosive environments) see **4.6 and (fig 11)**

Maintenance and Servicing.

6.2 The detail and recorded inspection should include checking the main bolt is torqued, no link of chain has been worn to a diameter less than 9mm and there is no deformation, cracks or sharp edges. Check the equalisation link has not un-screwed.

6.3 A removal and re-install inspection to verify the condition of attachment bolts is recommended at 10 year intervals, however the frequency may be increased depending on current regulations in your country or your conditions of usage (for example: high usage or corrosive environments).

6.4 Pre-use and continual checks are required to ensure the continued safe use of the equipment.

6.7 Use a paint marker or similar, to mark the location of the tightened equalisation link on the gate and body of the link. This will provide an inspection point.

7) Removal

7.1 To remove the anchor, remove the fixings from the puck and top link of chain.

7.2 Before reusing the anchor, carry out a detailed inspection (as per 6.2) of stal anchor and inspect fixings as per fixing manufacturer guidance.

7.3 WARNING: Do not re-use nylock nuts.

8) Incorrect Usage

8.1 Connectors to be compliant with EN 362 / EN 12275 (to be used as per connector's manufacturers guidance).

8.2 Pairs of connectors must be placed with gate-openings facing opposing directions.

8.3 Ensure that the Quick Link connector is orientated so that gate screws shut in a downwards direction.

8.4 Connectors should reflect the corrosivity of the environment, for example 316 / 316L stainless steel connectors should be used in a C3 environment.

8.5 It is NOT acceptable to run a rope through the chain.

8.6 It is NOT acceptable to run the rope through the equalisation connector.

8.7 The rope MUST be equipped through BOTH connectors.

9) Maintenance and Servicing:

9.1 Lifespan: this is the maximum life of the product, subject to detailed conditions, that the Manufacturer recommends that the product should remain in service. Maximum Lifespan: Textile & Plastic Products – 10 years from date of manufacture. Metal Products – no time limit.

Note: This may be as little as one use, or even earlier if damaged (e.g. in transit or storage) prior to first use. For the product to remain in service it must pass a visual and tactile inspection when considering the following criteria: fall arrest, general wear, chemical contamination, corrosion, mechanical malfunction/ deformation, cracks, loose rivets, loose strands of wire, frayed and/or bent wire, heat contamination (over normal climatic conditions), cut stitc hing, frayed tape, degradation of tape and/or thread, loose threads in tape, prolonged exposure to U.V., clear and readable marking (e.g. marking, batch reference, individual serial numbers etc). Where such products are permanently attached to other products in a system, please refer to the manufacturer recommendations of the complete system.

9.2 Obsolescence: a product may become obsolete before the end of its lifespan. Reasons for this may include changes in applicable standards, regulations, legislation, development of new techniques, incompatibility with other equipment etc.

10) Cleaning

This product must not be marked, modified or repaired by the user unless authorised by DMM. Note: this product is not user maintainable with the exception of the following

10.1 Disinfection and Cleaning: Wash in $\leq 30^{\circ}$ C clean domestic grade water with liquid soap in the pH range 5.5 to 8.5 for 15 minutes. Rinse in clean water and dry naturally in a warm ventilated room away from direct heat. It may be necessary to repeat the process to effectively clean and/or disinfect a product. Important: After use in marine or corrosive environments products should be rinsed in $\leq 30^{\circ}$ C clean domestic grade water, dried and lubricated using Henkel Superlube 3-in-1 Oil or Duck Oil if required.

10.2 Storage: after any necessary cleaning store unpacked in a cool, dry, dark place in a chemically neutral environment away from excessive heat or heat sources, high humidity, sharp edges, corrosives or other possible causes of damage. Do not store wet.

Explanation of Markings

All lengths of chain will be marked with:

DMM Wales UK - name of manufacturer/ country of origin.

ST-SS-XX - Product code

YRDAYXXXX# - Year/Day of manufacture and individual serial number.

xxkN - minimum breaking strength

Book Pictogram - reminder that the end user should read & understand these Instructions, and those supplied with other items of PPE which may be used in conjunction with this item.




x 4 - 4 person load

Pucks will be marked with:

DMM Wales UK - name of manufacturer/ country of origin.

ST-SS - Product code

YRDAYXXXX# - Year/Day of manufacture and individual serial number.

 Book Pictogram - reminder that the end user should read & understand these Instructions, and those supplied with other items of PPE which may be used in conjunction with this item.

Meets requirements of: **EN12572-1:2017, EN795:2012**

applied with other items of PPE which may be used in conjunction with this item.

Guarantee: DMM guarantees this product for 3 years against any defects in materials or manufacture. The guarantee does not cover this product for normal wear through usage, incorrect storage, poor maintenance, accidental damage, negligence, any modifications or alterations, corrosion, or for any usage for which the product was not designed.

Inspection Notes



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