TECHNICAL MANUAL FOR INSTALLATION, USE AND MAINTENANCE
Fall Arrest Anchor Point with Energy Absorption PAD20 – SS AISI 304

1. GENERAL INFORMATION AND SAFETY WARNINGS

Before installing or using the PAD20 deformable fall arrest anchor point, it is mandatory to read this manual in its entirety and understand all the safety instructions described.
The device is part of a fall protection system and should only be used in combination with compatible components certified in accordance with applicable regulations. The user must previously verify the functional and mechanical compatibility between all the elements of the fall arrest system.
The installation and use of the anchor must be carried out exclusively by qualified personnel, with specific training in work at height, access and positioning techniques, use of PPE and rescue procedures.
Before the start of any work, the following must be established:

- A review prior to using the device is advisable (see 6.1).
- A proper rescue procedure.
- Evacuation and rescue means available.
- Personnel trained for emergency interventions.

In the event of an accident, the rescue must be carried out as quickly as possible. Prolonged suspension in a fall arrest harness can lead to serious injury or even death within a few minutes.
This manual does not cover all possible usage situations, maneuvers or risks associated with working at height. Improper use of equipment, poor installation, or unintended use can lead to serious or fatal accidents.
The user assumes responsibility for the use of the equipment and for the operations carried out with a risk of falling.
If you have any technical questions, consult the manufacturer or competent technical personnel before using the device.

2. DESCRIPTION OF THE DEVICE

The PAD20 is a fall arrest anchor point designed with energy absorption for fall protection systems from height in accordance with EN 795:2012 Type A.
It is designed for installation on:

- Structural concrete.
- Brick wall (with SDM10).
- Resistant metal structures.
- Sheet metal/panel roofs (with SDC10).

Technical characteristics

- Model No.: **PAD20**
- Material: AISI 304 stainless steel sheet 5mm thickness
- Incorporates a deformation energy absorption system
- Intended Use: Fall Protection
- Maximum number of users: **1**

3. MECHANICAL STRENGTH

The strength of the device will depend on both the PAD20 anchor and the fastening system used and the resistant capacity of the support structure.
Maximum Strength > 12KN
The support structure must be able to withstand the maximum foreseeable loads transmitted by the fall arrest system.
Improper fixing, incorrect installation, or an under-strength structure can significantly reduce the strength of the assembly or lead to its complete failure. On supports that are difficult to calculate in strength (e.g. brick wall), it will be advisable to carry out an additional installation and a load test with an extractometer to verify the strength of the assembly.

4. INSTALLATION

4.1 General requirements

The installation must be carried out only on structures that are resistant, stable and suitable to withstand the indicated loads. It is the responsibility of the installer to verify the strength and suitability of the support structure.
All fasteners must be made of A4/A2 stainless steel class 70 at least. Do not use galvanized/zinc-plated fasteners in permanent installations due to the risk of galvanic corrosion.
This anchor is designed to absorb the energy of the fall through controlled deformation. The installation shall ensure that the **rotary deformation mechanism** can operate freely when under load. **The spiral base of the anchor must be able to rotate on the axis of the M12 screw under load**, for this reason **this screw must not be tightened with a torque greater than 20N** (see drawing). Always use a DIN985 M12 (or equivalent) self-locking nut to secure this joint.
The maximum deformation of the device is **250mm**.
The protruding length of the screw or threaded rod shall not interfere with the free movement of the connectors/carabiners. If the threaded rod protrudes excessively, it must be trimmed to a suitable length.
The orientation of the anchor must respect the load directions provided for in the design and installation sketch.

4.2 Direct installation on structural concrete

The installation must be carried out exclusively on solid concrete grade C30/37 or higher and always using an M12 stainless steel anchor. Chemical or mechanical anchors can be used. Always follow the instructions of the manufacturer of the structural anchor.

Mandatory conditions

- Use only ETA certified fasteners.
- Do not reuse existing perforations.
- Use torque wrench to apply the specified torque (20Nm) to allow the PAD20 to rotate under load. Use a DIN985 self-locking nut + DIN125 plain washer (or equivalents) to fix the anchor.
- Do not install on cracked or deteriorated concrete.
- Maintain a minimum safety distance from edges and structural discontinuities.

If visible cracks appear in the concrete during tightening, the installation must be cancelled immediately.
In installations under slabs or ceilings:

- The concrete must be completely solid.
- Do not install on vaults, lightened slabs or hollow elements.
- In the absence of technical justification, roof concrete shall be considered cracked concrete.

Chemical anchors
Chemical fixings must only be installed by professionals with accredited experience and strictly following the recommendations of the manufacturer of the structural anchor.
Factors such as: Product expiration, insufficient drill cleaning, incorrect curing time, premature handling, humidity or contamination; may result in insufficient or no resistance.
It is recommended to perform extraction tests on an additional fixture installed specifically for this test.

4.3 Installation on metal structures

The metal structure must be sufficiently strong to withstand the loads in the event of a fall.
Recommendations: Minimum thickness of 6mm and minimum distance to edge of 50mm.
Procedure:

1. Make Ø13mm through drill.
2. Install the anchor with M12 A2/A4 class 70 stainless steel hardware.
3. Use torque wrench to apply the specified torque (20Nm) to allow the PAD20 to rotate under load. Use a DIN985 self-locking nut + DIN125 plain washer (or equivalents) to fix the anchor.

Where there is a risk of corrosion, protect the machined surface by means of an appropriate insulating coating.

4.4 Installation on brick wall

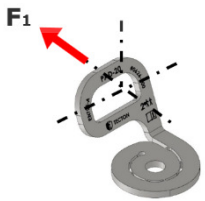
The strength of the support should be verified by means of an extractometer or similar tests.
Always follow the instructions of the structural anchor manufacturer.
Mandatory conditions

- Use only ETA certified fasteners.
- Do not reuse existing perforations.
- Use torque wrench to apply the specified torque (20Nm) to allow the PAD20 to rotate under load. Use a DIN985 self-locking nut + DIN125 plain washer (or equivalents) to fix the anchor.
- Do not install on cracked or deteriorated walls.
- Maintain a minimum safety distance from edges and structural discontinuities.
- Structural anchors should never work with traction, they should always be placed to work with shear.
- The SDM10 distribution plate with two M10/M12 plugs will always be used to reinforce the fastening and distribute the effort.

If visible cracks appear during tightening, the installation must be cancelled immediately.
Chemical fixations
Follow the same recommendations as in section 4.1 on concrete fastenings.

5. USE OF THE ANCHOR POINT

The connection of the fall arrest system to the PA10 must be made exclusively by means of EN 362 certified carabiners correctly closed and locked onto the ring. The intended direction of use is:



The connector must be able to rotate freely without generating interference or side loads.
The device allows the use of temporary textile lifelines EN 795 Type B, provided that: The loads act in the intended direction; The maximum permissible loads are not exceeded; The fastening has a nut locking system to prevent loosening.
During the tensioning of lifelines, it must be verified that: The anchor does not present permanent deformations and that the required tension is reached without overloading the system.

Warnings for use
It is forbidden to use the device for: Lifting loads, Lashing equipment, Pulling operations and Suspension of materials.
It must not be used by: People without specific training, users in inadequate physical or psychological conditions, minors or pregnant women.
The system must be equipped with an energy absorber capable of limiting the force transmitted to the user to a maximum of 6 kN.
Whenever possible, the system should be set to restraint mode to prevent falling.
The available clearance must be checked before each use to avoid impacts against any possible obstacles (soil, structures, equipment or other workers).
The lanyard to be used can be only one of these 3: a shock-absorbing lanyard (EN355), a rope grab with absorber (EN353.2) or a self-retracting lifeline (EN360). The only authorised body restraint device is an EN 361 certified fall arrest harness.
All components must be protected against: sharp edges, abrasive surfaces, chemicals, sparks, moving machinery, extreme temperatures and any other circumstance that could deteriorate them.

6. INSPECTION, MAINTENANCE AND SERVICE LIFE

6.1 Periodic inspections

The device must be inspected at least once every 12 months by a competent person. In aggressive environments or conditions of intensive use, the frequency of inspection should be increased.
The review will include:

- Anchor status (see 6.2).
- Status of fixings.
- Condition of the support structure.
- Torque verification.
- Absence of deformations, fissures or corrosion.

6.2 Decommissioning

The device should be removed immediately if it shows signs of: corrosion, cracks, deformations, excessive wear, clearances, fall impacts, unknown history, or illegible markings. See dimensions and deformation of the anchor at the back.
It is not allowed: repairing, welding, modifying or painting the device.

6.3 Shelf life and storage

The useful life of the PAD20 is set at 25 years, but it will depend on environmental conditions, maintenance carried out and intensity of use.
Marine or highly corrosive environments can significantly reduce the durability of the device and its fasteners.
The equipment must always be stored in a dry and ventilated place, away from humidity and corrosive atmospheres, protected from direct sunlight and in its original packaging.
To clean it, wipe the device with a soft, damp cloth and let it air dry.

7. DOCUMENTATION AND REGISTRATION

Any installation and periodic inspection shall be properly documented.
The record must include:

1. Installer or inspector data.
2. Model and identification of the anchor.
3. Location and orientation.
4. Characteristics of the support structure.
5. Type of fastening used.
6. Verification of installation conformity.
7. Photographic record if applicable.
8. Inspection result.
9. Date of installation.
10. Date of next revision.
11. Declaration of fitness for service.

8. LIABILITY AND WARRANTY

The anchor point warranty is 3 years from the date of purchase, although it will be extendable up to 25 years (useful life of the anchor) as long as the mandatory annual inspections are complied with from the first year.
The manufacturer shall not be liable for: Incorrect installations, improper use, use outside regulations, failures resulting from insufficiently resistant structures, lack of revisions, or damage caused by incompatible components. Failure to pay in full or in part also voids the warranty.
The marketing of the product outside the country of origin must comply with the legal and technical regulations in force in the country of destination, including the delivery of documentation in the corresponding language.

9. REGULATIONS AND MANUFACTURING

The PAD20 anchor point complies with EN 795:2012 Type A as certified by the ISO/IEC 17025:2005 accredited laboratory QUINTIN CERTIFICATIONS– 825 route de Romans – 38160 Saint Antoine l'Abbaye – France.
Do not use the device in case of non-compliance with applicable legislation.

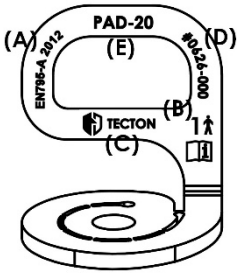
Manufacturer

TECTON SAFETY

Manufactured by TECTON SAFETY S.L.
c/ Hotel Alfa Mercabarna Zona Franca Letra K, 0
08040 Barcelona (SPAIN)
CIF. B26945733 - info@tectonsafety.com

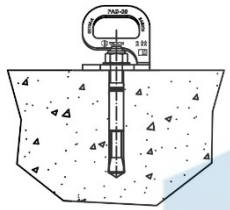
Installer

MARKING



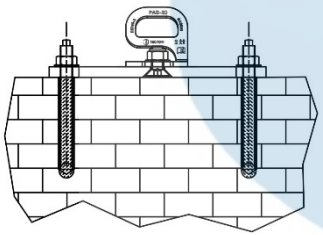
A. **EN795-A:2012**: Reference Standard
B. **1** : 1 user
C. **TECTON** : Manufacturer
D. **#0626-001**: Date of manufacture and serial number.
E. **PAD-20** : Model
F. : Mandatory to read instructions for use.

CONCRETE INSTALLATION (1 M12 plug)



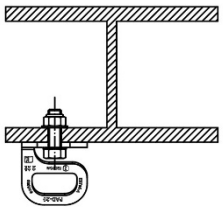
Direct fixing of the PAD20 by means of one M12 anchor on uncracked reinforced concrete quality C30/37 or higher. Always follow the recommendations of the manufacturer of the anchor. It is advisable to perform a extraction test on an anchor to verify the strength of the support.
Minimum support resistance > 12KN.
Use a DIN985 brake nut + DIN125 flat washer for fixing the anchor to the M12 rod. Tighten to **20Nm**.

INSTALLATION IN CONCRETE/BRICK (2 M10/M12 plugs)



Use one M12 countersunk screw + DIN985 brake nut + DIN125 flat washer to fix the PAD20 on the SDC10 base. Tighten to **20Nm**. Fix the SDM10 partition plate with 2 M10/M12 chemical anchors (use sieve on concrete/hollow bricks). Always follow the recommendations of the manufacturer of the anchor.
It is advisable to perform a extraction test on an anchor to verify the strength of the support.
Minimum support resistance > 12KN.

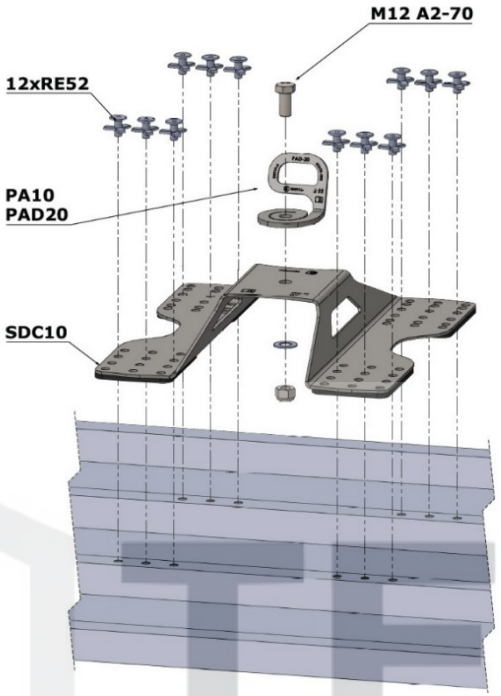
STEEL INSTALLATION



Direct anchor fixing by M12 screws + DIN985 brake nut + 2 DIN125 washers. Drill Ø12.5 – 13mm. Minimum thickness 6mm. Tighten the screws to **20Nm** to release the energy absorption mechanism.

Minimum support resistance > 12KN.

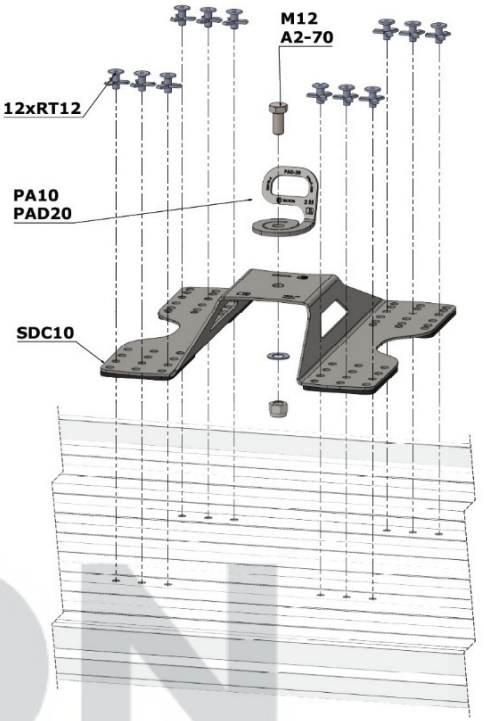
INSTALLATION ON SHEET METAL ROOF/PANEL



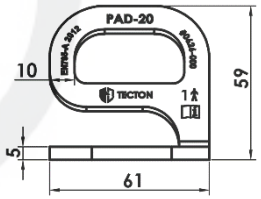
Fixing by SDC10 base and rivetable screws. TR8 steel rivet nuts + M6 stainless steel screw or RT12 aluminum clover rivets can be used to fix the SDC10 base on the deck, both for sheet metal and sandwich panel roofs.
Use 1 x M12 hex screw + DIN985 brake nut + 2 DIN125 flat washers to fix the anchor point on the SDC10 base and the TR8 nuts or RT8 rivets required depending on the type/thickness of deck plate.

COVER	THICKNESS	FIXINGS
BADGE	0.5mm	12u TR8 / 12u RT12
	>0.6mm	8u TR8 / 12u RT12
PANEL	>0.5mm	12u TR8 / 12u RT12

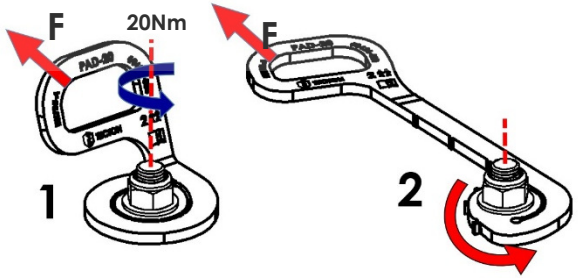
Always check the minimum thickness of the roof steel sheet > 0.5mm.
PROCEDURE:
1.Plant SDC10 base on the sheet/panel and make the holes (12xRT12 or 8xTR8) centered on the ribs.
2. Attach the RT12 rivets (12u) or TR8 rivet nuts (8u) and rivet.
3. In the case of TR8 rivet nuts, place the base on the holes and then fix with the M6 screws. No additional waterproofing work is necessary.
4. Fix the PAD20 anchor point on the SDC10 base with 1 M12 hex screw + 2 DIN125 flat washers + 1 DIN985 brake nut tightened to **20Nm**.



DIMENSIONS & PAD-20 DEFORMATION







Fall **energy absorption** system due to fuse breakage and constant force deformation. **Maximum elongation = 250mm**.
Use a DIN985 brake nut + DIN125 flat washer to fix the anchor and always tighten at **20Nm** (**1**).
The installation must leave the base spiral unobstructed and free to rotate and deform during the fall (**2**).
Deformations higher than 10mm in any direction are not allowable.

ANCHOR POINT SHEET

EQUIPMENT RECORD SHEET					
PRODUCT					
Model		Trademark		Serial Number	
Manufacturer		Address		Phone / Email	
Year of Manufacture		Date of Purchase		Date of Installation	

PERIODIC REVIEW AND REPAIR LOG				
Date	Reason (Periodic Review or Repair)	Observed Defects, Repairs Performed, and Other Pertinent Information	Name and Signature of Competent Person	Scheduled Date of Next Periodic Review