

SUPER ANCHOR® RS-20 INSTRUCTION/SPECIFICATION MANUAL

PACKAGE CONTENTS:

- 1 RS-20 Anchor Part # 2816
- 8 Stainless Spiral Nails
- This Instruction/Specification Manual 7-03

SPECIFICATION OF USE:

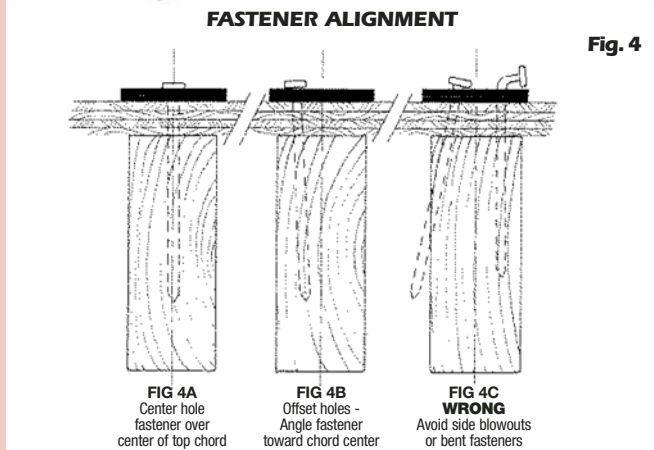
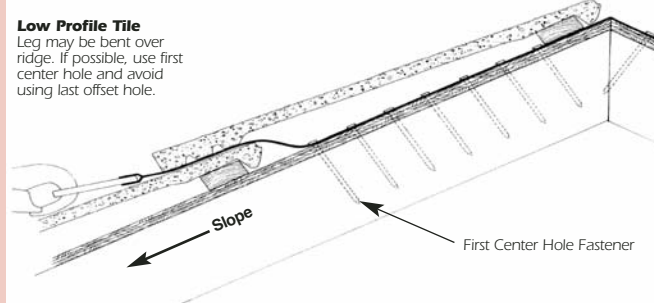
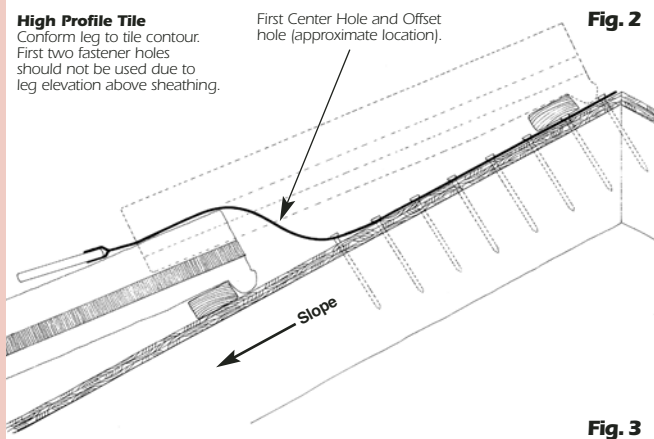
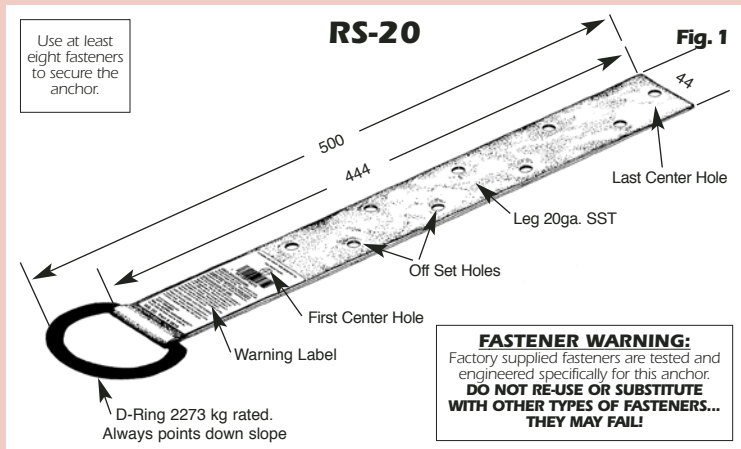
Specially designed for high/low profile roofing tiles, vertical sidewalls, floors, and other types of roofing.

MATERIAL SPECIFICATION:

20 Ga. #304 Stainless Steel. 444mm length x 44mm width. Fitted with die-chromate 2273 kg D-Ring. Rated for fall arrest/fall restraint.

ANCHOR USE SPECIFICATION:

May be used for Fall Arrest by one person at a time or multiple users when the service and impact loads have been engineered by a "Qualified Person" (see OSHA definition); or when a total system designed to withstand 2-times the intended load has been specified in accordance with OSHA 1926:502(d)(15)(i). Do not exceed 140kg per person including tools and equipment. Use of a shock absorbing lanyard is recommended. Maximum load rating per anchor is 2273 kg.



FRAMING REQUIREMENTS:

Install into at least a 100 x 50 or 90 x 38 top chord or wall stud with 12mm OSB or Plywood underlayment – or without decking underlayment. Attach the anchor to a structure capable of supporting a 2273 kg load or 2 times the intended load when designed as a complete system. OSHA 1926:502(d)(15)(i). Framing must comply with current UBC codes/standards. Do not attach to framing that is cracked, damaged, rotting or to chords that are spliced.

HIGH PROFILE TILES:

As shown in Fig 2 & 3, conform the anchor leg by bending. Plan the length of the exposed portion of the anchor which includes the D-ring and lower portion of the warning label to extend below the succeeding course of tile.
NOTE: For high profile tiles, the first and second nail hole positions may not be useable due to the leg elevation above the deck. Always locate the anchor leg under the battens, on top of the sheathing.

OVER RIDGE INSTALLATION:

Top portion of the RS-20 leg may be bent over the ridge and secured to the top chord of the opposite slope (Fig. 3). Do not lap over hipped areas.

FACTORY SUPPLIED FASTENERS:

8 stainless steel 12d - 10-ga. spiral shank nails, Part # 2013-A, supplied with each anchor must be used. When removal or reuse of the anchor is intended, use fastener package #2009 - 8 ea. 63mm hex head screws. Request fastener packages from distributor or manufacturer.

CONNECTING HARDWARE and TIE-OFF:

Use only double locking snaphooks, or auto-locking carabiners to attach a lifeline or lanyard to the RS-20 D-Ring. Use only fall protection equipment that is compatible with the anchor system. Recommended systems: Total Package Part #4003 or #4004 or Value Package Part #4018 or #4019. Never tie a lifeline or lanyard directly to the D-ring or use the anchor without personal fall protection equipment that complies with OSHA 1926 sub part M, ANSI A10.91 and/or AS/NZ 1891 Parts 1 to 4.

INSTALLATION AND INSPECTION:

As shown in Fig. 4A, use the last (top) hole position to locate the anchor leg over the center of the framing member. Install the 8 factory supplied fasteners using any combination of the 10 nail holes provided starting at last (top) hole. Fasteners must penetrate a minimum of 44mm through framing and wood sheathing. Angle offset fasteners toward center of framing as shown in Fig. 4B. Fasteners that are damaged during installation, or blow out the side of the framing as shown in Fig. 4c, must be replaced before using the anchor. Inspect fastener installation by examining the interior or underside of the framing.

WARNING LABEL:

By design, the majority of the warning label will be covered by the overlapping roofing. The part number portion (first 12.7mm) located just above the D-Ring (Fig. 1) should be visible at all times.

WHEN A FALL OCCURS:

If the anchor is subjected to a free fall or any other type of force, it must not be used. Remove from Service and replace with a new anchor. It is recommended to move the new anchor to another rafter or stud, avoiding reinstallation over the original fastener penetrations.

NUMBER OF ANCHORS REQUIRED:

The sample roof shown in **Fig. 5** below requires a minimum of 3 anchor points - one for each separate roof deck. However, hip ends may require additional anchor points due to swing fall hazards. The number of anchors and their locations will depend on several factors: fall arrest or fall restraint use, the length of a hip or rafter, and the free fall length. A method to calculate anchor locations and plot "service zones" provided by each anchor may be found in the ARS 2x8 Instruction manual on page 29.

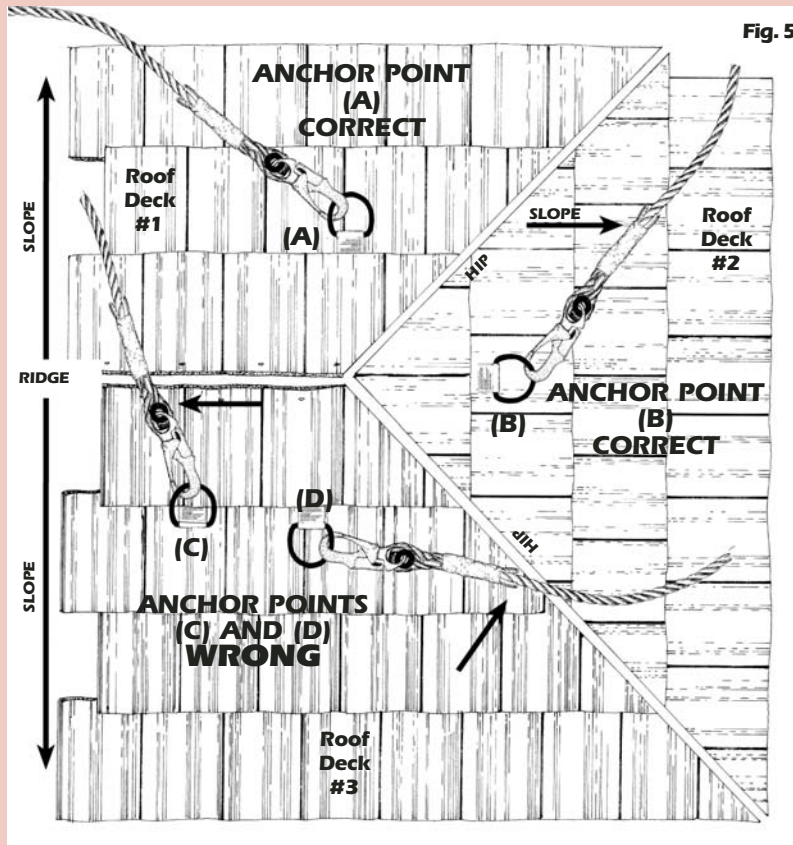


Fig. 5

ANCHOR INSTALLATION AND ORIENTATION TO LOADING:

Always install the RS-20 with the D-ring pointing down slope as shown as in **Fig. 5a** and **5b**. Static loading or exposure to free falls must always be directed so that the force is applied down slope parallel to the rafter or wall stud.

FALL ARREST USE:

When exposed to free fall hazards(fall arrest mode) or used in tension(static load), **do not** subject the RS-20 to side loading (such as crossing a hip **5d**), reverse loading(crossing over a ridge **5c**), because in the event of a fall, the fasteners may pull out. When working off center at an angle, as shown in **5a-5b**, additional anchors may be required along the hip to eliminate swing fall hazards.

FALL RESTRAINT/WORK POSITIONING:

Provided there is no exposure to a free fall or static loading of the anchor, the worker may use the anchor in a 360/o radius crossing hips and ridges when necessary.

GABLE EDGE HAZARD:

Gable edge fall hazards may subject the anchor to side loading. This may be prevented by making adjustments in the length of the lifeline and working in fall restraint mode.

HIP ENDS:

Depending on the rafter length and free fall exposure, hips and hip ends may require 2 or 3 anchors in order to provide 100% coverage. For example: A 3 anchor solution requires a center mounted anchor near the apex of the hip and 1 anchor on each hip side placed far enough down slope to eliminate any swing fall hazards. However, some hips may require only two anchors.

WALL MOUNT:

If the anchor is to be sided over, as shown in **Fig. 6c**, the position of the D-ring may be adjusted by moving the anchor up or down the wall. **Warning: Wall and roof structures should be sufficiently braced to withstand the intended load.**

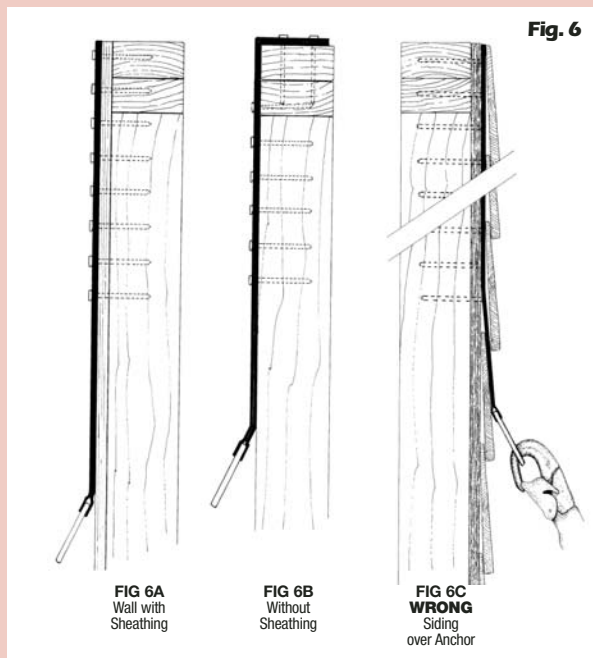


Fig. 6

ANCHOR "SERVICE ZONES":

Service zones based on the anchor location and the free fall distance create a radius of protection. When using the RS-20 for fall arrest, service zones will be 180/o or less because it is **not** permissible to cross over a hip or ridge when free fall hazards exist without disconnecting and reconnecting to an anchor on the opposite side of the roof. When used for fall restraint, the zones may be 360/o because the worker is not required to change anchor points when crossing a hip or ridge. Note: when using the ARS 2x8 manual to plot RS-20 anchor locations, Note that the ARS 2x8 is designed to be used in a 360/o radius.

USING MULTIPLE ANCHOR LOCATIONS:

Example: A worker on roof deck #3 needs to cross over to hip end roof deck #2. Work will be performed near the eave line exposing the worker to a fall hazard. Disconnect from anchor point (**5d**) and reconnect to anchor point (**5b**), or another anchor located further down slope.

WEATHERPROOFING:

To prevent windblown rain, dust, or snow, the roofing material may need to be caulked where the anchor leg exits the headlap.

INSPECTION OF ANCHORS:

Before installing, make sure the RS-20 is free of any defects that may occur in shipping or handling. Both halves of the leg must be spot welded together. The D-ring or anchor leg is not bent and the warning label is attached as shown in **Fig. 1**. Before attaching a lifeline, make sure the anchor is installed according to this manual and conforms with the "installation" specifications on page 46.

WALLS AND FLOORS:

As shown in **Fig. 6**, install onto vertical wall with a minimum 12mm OSB or plywood. When using on walls without sheathing, install as shown in **Fig. 6b**. with a minimum of two fastener nails through a double top plate. When the anchor is to be removed after use, it is recommended to use hex head fastener package **part #2009**. When securing to a floor, observe the same principle of direction of use as required for sloped areas. Secure by attaching to a floor joist through the floor sheathing.