

Accessories

Introduction

While a number of cable related accessories are available on the market, RFS components are of the highest quality and are designed to provide years of trouble-free service. Together with the RFS transmission line products they have been thoroughly tested and released to insure inter-operability.

RFS offers all necessary tools and accessories for a complete cable system, such as:

- Cable Hangers
- Tools
- Grounding Kits
- Feed-Through Systems
- Weather-proofing Kits
- Installation Hardware

Most of them are described in detail in the succeeding accessories introduction, for availability concerning cable types and sizes please refer to the accessories selection guide.

Cable Hangers

RSB® CLIP

The RSB® Clip is designed for the installation of CELLFLEX® foam dielectric cables from sizes 1/4" up to 1-5/8". The clip is a universal clamp device and can be used in many mounting configurations. In case of replacing a cable the RSB Clips can be opened without any tools. After replacing the cable the clips are closed again.

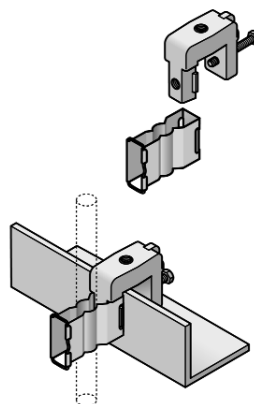
The RSB is the abbreviation of Rostfreier Stahlbügel and means stainless steel hanger. The hanger is resistant against all environmental influences. Due to the mechanical construction a cable deformation is impossible. Therefore a deterioration of the electrical properties is avoided.

Rucksack Option RSB® Clip

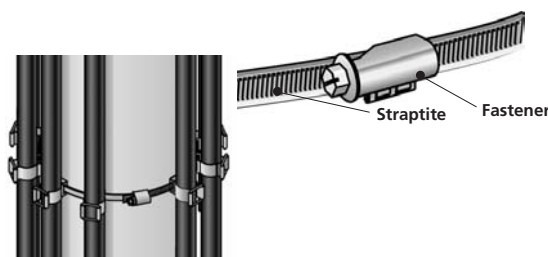
For multiple cable layers RFS offers a special multiple extension. This so-called Rucksack option enables the stacking of cable layers. The cables are fixed by using cover plates to guarantee a safe and stable attachment. Only smaller or same size cables can be stacked.

Mounting RSB® Clips

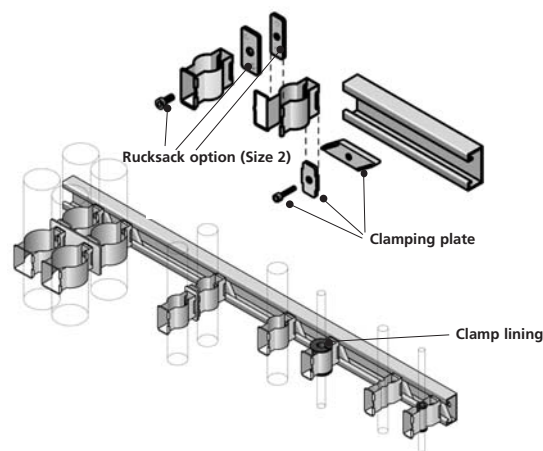
A universal attachment onto flat iron or angle iron is possible with a special cleat. To attach the clip onto an anchor bar a simple clamping plate is necessary. In order to attach the clip onto a tube a straptite is used.



RSB Clip



RSB Clip with Round Member Adapter or Straptite S/S Strapping



Mounting RSB Clips

Cable Hangers

Multi Block Hangers

Multi block hanger support systems are designed for organizing bundled runs of coax cable. Each space-saving block securely holds two runs of coax, allowing a compact bundle of up to six runs to be supported by stacking three blocks. Multi Blocks are manufactured of durable glass polypropylene providing thermal, chemical and UV resistance in extreme environments. They come pre-assembled with the necessary hardware to connect to M8 threaded holes or 8.5mm (0.335in) through holes. Can also be mounted to Angle Member Adapters (purchased separately).

Bolt-on Hanger

This standard cable clamp is used for securing a vertical run of cable to a tower member or a horizontal run to an overhead carrier. The hanger is constructed of flexible stainless steel. Designed for versatile mounting, the hanger may be bolt or strap mounted directly to a mounting surface, or used with accessories such as an angle member adapter. Each kit contains ten hangers with captivated assembly hardware.

HCH Clamps

Clamps are available for the installation of (large diameter HCA) cables on different supporting profiles, e.g. angle iron, flat iron or anchor bar.

SCS Hangers

SCS (Self Clamping hanger with calibrated Saddles) hangers feature a stainless steel hanger that accepts calibrated saddles made of glass-fiber reinforced plastic material. They are especially designed to accept CELLFLEX® foam dielectric cables and to protect them against excessive crush force while properly supporting and securing the cables. Different models are available to support 1, 2 or 3 cables per hanger in a stacked configuration. Three different fixing options are available to adjust to any installation situation. Version M works with a number of popular C- or AC-rail versions, accepting flat or round material between 3 and 12mm (0.118 and 0.472in) thickness. Version L works with L-profiles of a side-length between 40 and 50mm (1.58 and 1.97in). Version R works with flat material from 3 up to 25mm (0.118 up to 0.984in) or round material from 8 up to 25mm (0.135 up to 0.984in). The fixing bolt is equipped with an additional nut with star washer to give positive lock also under dynamic stress.

Snap-in Hanger

The one-piece stainless steel cable clamp is designed to save installation time and money while assuring a most secure method of cable attachment.

The one piece stainless steel snap-in cable hanger utilizes a patented* four prong locking design that ensures positive attachment to a 3/4"(19mm) pre-drilled mounting surface. A cable locking tab system is used to secure the cable within the hanger. Snap-In hangers are easily installed by hand and do not require any fastening hardware or tools. Recommended spacing, approx. 3 ft. (1 m). Ten hangers per package.



Multi Block Hangers



Bolt-on Hanger



HCH Clamp



SCS Hangers



Snap-in Hanger

*US Patent No. 5,393,021. No assembly tool or secondary fasteners are used for hanger assembly or strut mounting.

Accessories

Cable Hangers

Other Accessories

Angle Member Adapter Kit

Angle member adapter kits can be used to attach hangers, i.e. bolt on hangers or RSB-clips, to tower angle members without need of drilling. The kit contains ten angle adapters with mounting screws. There are two basic versions: ANGLE-CLPI is a heavy gauge stainless steel version with 3/8" imperial hardware. When installed onto a metal surface, the one piece angle adapter with serrated edge grip will support up to 290 kg (640 lbs). ANGLE-CLPM8 is a stainless steel version with M8 metric hardware.



Angle member adapter kit

Universal Angle Adapter

The Universal Angle Adapter exists in a metric and an imperial version. It provides a versatile means for securing cable hangers and other accessories to angle members. Removing a press fit insert quickly converts this unique angle adapter to accept snap-in hangers. This design also accommodates a standard 3/8" threaded rod or bolt when mounting multi hanger blocks or bolt-on hangers. The jaw opening allows mounting up to 22mm (7/8") thick angle members.



Universal Angle Adapter

The Universal Angle Adapter is manufactured from corrosion resistant stainless steel, ensuring long term integrity in extreme weather applications. Ten per package.



Straptite Stainless Steel Strapping

Stainless steel strapping kit used to secure cable mounting hardware components to round members. Kit consists of 30 m (100 ft.) 15mm (1/2") wide high strength alloy stainless steel strap, 50 fastener buckles, and installation tightening tool. Approximate weight 1.45kg (3.20 lb).

Straptite Stainless Steel Strapping



Round Member Adapter Kit

Round member adapters are used to mount hangers and standoffs to round tower members. The adapter kit consists of stainless steel hose-clamps with screw drive adjustment. Different kits cover diameters from 25 to 178mm (1 to 7in).

Round Member Adapter Kit

Tower Standoff

Constructed of heavy stainless steel, the stand-offs provide 63mm (2-1/2") tower clearance to hangers when running transmission lines over tower cross members, flanges and other tower obstacles. The kit consists of ten stainless steel tower stand-offs with stainless steel hardware and come in three versions with 9.5 (3/8") through holes.



Tower Standoff

Ceiling Adapter

The Ceiling Adapter exists in a metric and an imperial version. It consists of 305mm (12") or 610mm (24") long M10 or 3/8"-16 threaded electro-plated steel stud, with hardware and mounting plate. Top plate accepts 6.35mm (1/4") hardware (not supplied) on 54mm (2-1/8") centers.



Ceiling Adapter

Other Accessories

Trimming Tools

Special trimming tools make the connector attachment onto CELLFLEX® foam dielectric cables even easier. No further tools are required to prepare the cable for the connector attachment. This is due to the special design of the trimming tool, which combines all necessary functions in one compact tool.

Only a few steps are necessary for a perfect connector attachment. The time reduction is 60% compared to conventional methods.

- Strip off the cable jacket a few centimeters.
- Cut the jacket, outer conductor and foam dielectric in one step to the precise trimming lengths by using the trimming tool.
- Debur the inner conductor and flare the outer conductor in one step by using the integrated tool of the trimming tool.
- Fit the connector.
- Select the trim tool appropriate for your selected connector by referring to the Trimming Tool column data in the Connector Selection Guide.

Flanging Tools

Flanging tools have been developed to provide top quality connection between cable and connector. The use of flanging tools is strongly recommended for HELIFLEX® cables used in microwave systems or if low modulation figures are required. For other types of application the flanging tool provide a simple and safe installation.

The flanging tool consists of a basic tool and, for most cable sizes, an additional insert (die). Depending on the cable size the basic flanging tool must be ordered together with an insert.

For cable sizes from 3/8" up to 7/8" no flanging tool is required due to the construction of RAPID FIT™ connectors. A special insert must be ordered for EIA (S-Line) connectors.

For universal purposes RFS offers a special hand tool kit. This kit contains all necessary tools for the installation of connectors.



Combination Prep Tools for CELLFLEX®



Flanging Tool

Accessories

Other Accessories

Combination Prep Tool for CELLFLEX®

This prep tool allows fast, precise and consistent connector attachment.

The combination chamfer and flare station eliminates the need for individual tools, allowing for jacket trimming, deburring and proper flaring using one tool.

Each tool contains two preset cutting blades designed to efficiently trim the cable jacket, outer conductor and foam dielectric for proper installation. Prep tool blades are reversible for a fresh cutting edge and spare blades are located in the tool handle.

Automated Trimming Tool

Attach the tool to your drill and, in one quick step, strip the outer jacket, the outer conductor and foam insulation, then cut and chamfer the inner conductor to the correct dimensions for quick, consistent and reliable connector attachment.

Jacket Stripping Tools

For quick and easy preparation of installed cable for the attachment of grounding straps, just clamp the tool around the cable and rotate.

New JSTRIP-2 tool available for popular cable sizes, refer to selection guide for availability.

Ideal for use on cable that is mounted close to structures and other cable runs.

Combination Preparation Tool for CELLFLEX® crank version

There are two different tools available for the bigger sizes of LCF cables starting at 1-1/4":

TRIM-214-C02 is a cost effective manual tool that works with all corrugated inner conductor versions, i.e. UCF114, LCF158 and LCF214. No further tools are required to prepare the cable for the connector attachment. This is due to the unique design of the trimming tool, which combines all necessary functions in one tool.

TRIM-114-C12 is a tool dedicated to the preparation of all 1-1/4" and 1-5/8" CELLFLEX® cables and is operated by hand.

It works with UCF114, LCFS114 and LCF158. No further tools are required to prepare the cable for the connector attachment. This is due to the unique design of the trimming tool, which combines all necessary functions in one tool.



Combination Prep Tools for CELLFLEX®



Automated Trimming Tool



JSTRIP-1



JSTRIP-2

Jacket Stripping Tool



TRIM-214-C02



TRIM-114-C12

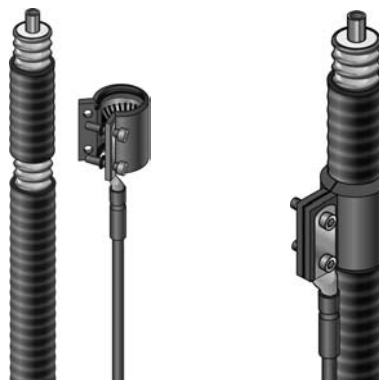
Grounding Kits

High Speed Grounding Kit

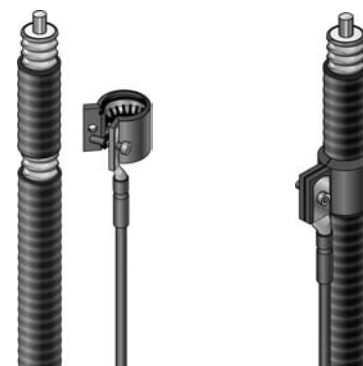
The HSE grounding kit is a pre-assembled grounding kit for low loss and flexible cables from sizes 1/4" to 1-5/8". After the installation, the grounding is resistant to all environmental influences.

The grounding body is made of stainless steel, and vulcanized with rubber. The contact mechanism is designed to provide low resistance and reliable contact while maintaining the outer conductor integrity. The stranded grounding wire is pre-assembled with stainless steel screws. Safety washers prevent the screws from loosening. A simple but helpful detail, especially when mounting the grounding kit on top of a tower.

The installation process consists of three steps. At first the cable is stripped. For multiple cable runs with tight spacing a special stripping tool is recommended. In the second step the grounding body is wrapped around the cable. At last the screws are tightened. Three steps in three minutes for perfect grounding. The high speed grounding kits have successfully been tested with repeated 100kA (10/350 μ -s) lightning currents.

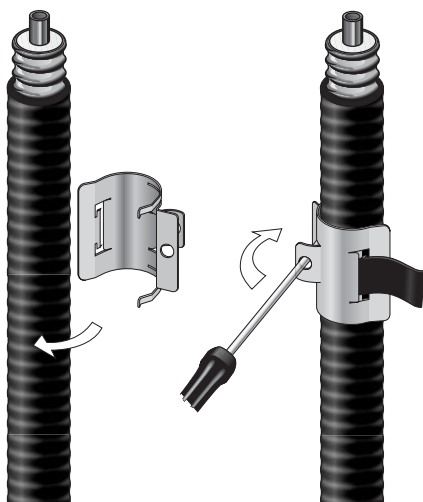


High Speed Grounding Kit HSE-78



High Speed Grounding Kit HSE-12

Cable Preparation



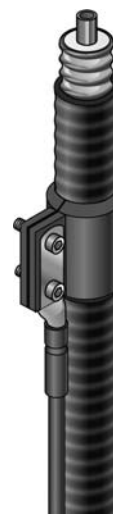
Step 1

Clean the cable jacket around the grounding point and cut off the appropriate strip width as per instructions using stripping tool. (Optional)



Step 2

Align grounding body around the cable and close it around the cable.



Step 3

Lock the grounding kit with both screws.

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Grounding Kits – Clip On

Clip-on Ground Kits provide an advanced coax grounding solution, providing quick and easy installation coupled with dependable protection of the coaxial cable system. The unique clip design and pre-formed strap allow the Clip-on Ground Kit to be easily slipped over the outer conductor of the coax and firmly latched into place. The latch mechanism has been optimized to provide a secure fit, maximizing performance by ensuring proper contact surface area and pressure.

The Clip-on Ground Kit is designed to comply with ASTM A967, protecting coax from the damaging effects of lightning current in excess of 200 kA. Each kit includes a 6-gauge, 7-strand copper ground lead with your choice of lead lengths and attached or unattached lugs. All bus bar attachment hardware is included, along with required mastic and electrical tape for weatherproofing each kit.

Grounding Kits – Pre-formed Strap

The grounding kit with pre-formed copper strap facilitates installation with a pre-formed copper strap that eliminates the need for a coiling tool.

This kit has been verified by independent labs to protect coax from the damaging effects of lightning current in excess of 200kA.

Each kit includes a 1.5m (5ft), 6-gauge 7-strand copper ground lead which can be trimmed to the exact length required for a neat and effective installation. One 1/4" two-hole ground lug, one 3/8" two-hole ground lug, and all bus bar attachment hardware are also included along with the required mastic and electrical tape for weatherproofing.

Grounding Kits – Pre-formed Copper Strap

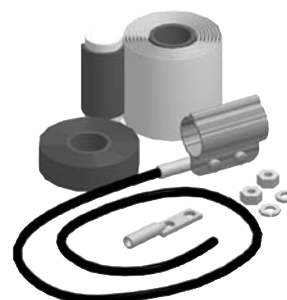
The Strap-On Grounding Kit is designed for HCA cables and include all necessary hardware and weather proofing supplies.

Connector Grounding Kit

These connector grounding kits provide direct connector grounding for instance on an anchor bar. The assembly or disassembly is quick and easy while providing mechanical fixture and reliable ground path at the same time. Optional accessories are AC-rails (standard length 300 mm/118") and the earthing terminal to connect a locally provided cable to the earthing bus. All components are made of stainless steel.



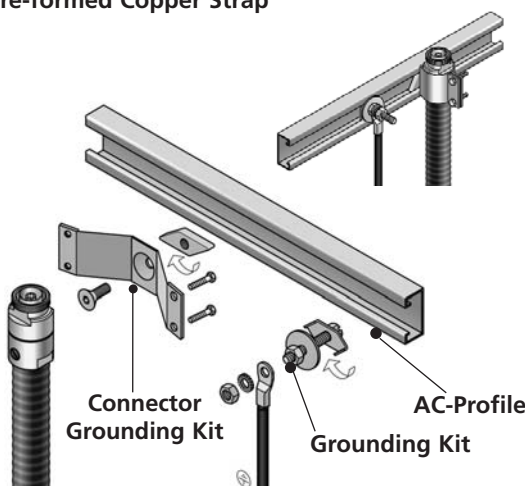
Grounding Kit - Clip On



Grounding Kit - Pre-formed



Pre-formed Copper Strap



Connector Grounding Kit

Wall/Roof Feed Through Entry Panels

Aluminum feed-through entry panels enable multiple coax runs to enter buildings and shelters. These rugged panels support the transmission line cable at the entry point and prevent moisture from entering the building. Each panel features 4" (101.6mm) or 5" (127mm) openings to accept boot assemblies.

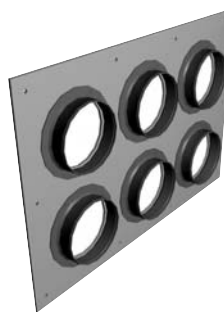
Feed-through panels are offered with a broad selection of hole patterns (from 1 to 12 holes) and plate sizes to match your exact application. These entries can be used in both interior and exterior wall applications to create a neat and clean installation. Each panel includes a set of wall attachment hardware, including 6mm (#14) stainless steel screws, finishing washers, and plastic anchors and is powder coated to ensure long term integrity and provide appealing aesthetics. Sealing caps for all openings are also included. Boot assemblies are purchased separately to accommodate specific transmission line requirements.

4" Feed Through Assemblies

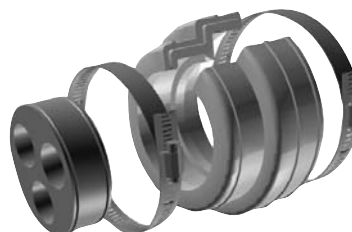
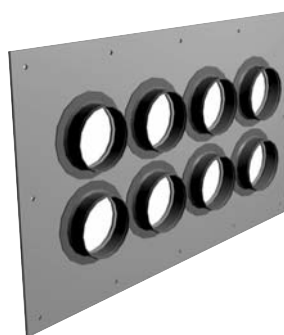
These innovative boot assemblies feature a one-piece design which reduces installation time. The split, one-piece style simplifies clamping and frees the installer's hands to position the cable runs. Boot assemblies are designed to be fitted onto 4" (101.6mm) entry panels in wall/roof feed-through applications. The durable boot is designed to meet ASTM-D2000 and SAE J200 specifications. Each boot assembly includes the boot, two round member adapter clamps which fit inside the boot assembly to hold the coax in place.

WF-Series Wall-Feed through

This flexible feed through solution can be installed also for already routed cables. The kit consists of a 6-hole stainless steel clamp, a single rubber boot, fixing and sealing material in a complete set.



6 & 8 Hole Wall/Roof Feed Through Entry Panels



Feed Through Assemblies

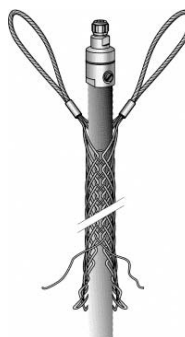


Wall Feed-Through (without plate)

Accessories

Hoisting Grips

Hoisting grips are used to distribute the force introduced into a cable when hoisted using a winch which is usually the case when cable size and/or length lead to an overall weight that cannot be operated manually. They consist of a wire mesh and hold the cable by means of friction over their complete length when pulled. Two varieties are available for most cable types - one loop and two loop. Two type of varieties are available for most cable sizes; the closed version - used when the top connector is installed after the cable is hoisted - and the open version - used in cases where the top connector is installed prior to hoisting the cable. Also in the latter case the closed version might be used if it shall be left on the cable replacing the top cable clamp. Cables with factory-installed connectors can be delivered with preinstalled hoisting grips on customer request. Please contact our sales team for details. The maximum hoisting length per stocking is 60m (200ft) for HOIST1 versions and 70m (230ft) for HOIST2 versions of cable sizes up to and including 3-1/8" and 40m (130ft) for cable sizes above 3-1/8".. For longer sections additional grips have to be used, making sure each one carries its part of the overall weight. Two styles of hoisting grips are available depending on your installation needs. The two-loop versions are ideal for multi-use applications and can be reused many times. For example, installers can use the heavy duty HOIST2L versions available that also cover multiple cable sizes and types to reduce the number of products needed. The one-loop versions are ideal for permanent, one-time installations where the hoisting grip remains attached to the cable.



**Two Loop
Hoisting Grip
Open Lacing**



**One Loop
Hoisting Grip
Open Lacing**

Cold Shrink Kit

RFS offers a time-saving and easy way to secure a water-proof protection. No tools are necessary for installation. The shrinking process is done by simply unwinding a removable core.



Step 1

Slide the cold-shrink tube over the cable and set foam strips.



Step 2

Join the connectors and place the tube.



Step 3

Shrink the tube by pulling the core by hand

Weatherproofing Kit WPFG-1

Used for protection of splices and connectors that are directly buried or exposed to corrosive environmental conditions. WPFG-1 kit consists of 5 rolls of butyl rubber tape, 1 roll of 50mm (2") black electrical tape and 2 rolls of 19mm (3/4") black electrical tape. Other kits available on request to meet specific needs.



Weatherproofing Kit