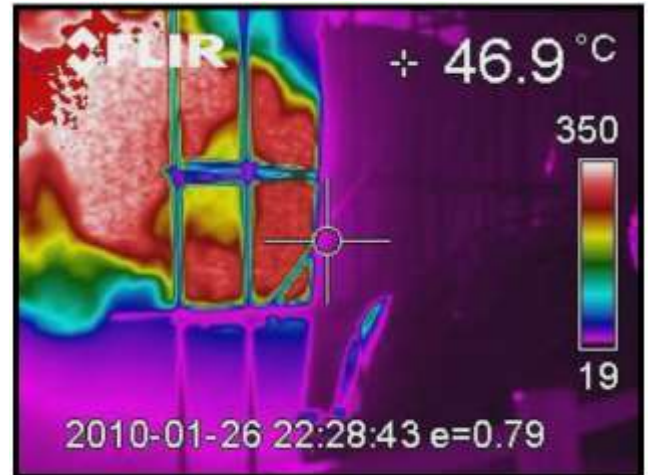


Darco **HEATSHIELD/CURTAIN/S** Reflective Cover Installation Procedure.



DATE	REV	AUTHOR	APPROVED
May 25	02	James Dar	James Dar

Revision Details

REV	BRIEF DESCRIPTION OF CHANGE
01	NEW Operational Procedure
02	Company name change revision - Darco Industries Offshore Pty Ltd

USER NOTES

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As part of the “Heat Suppression Safety System” supplied by Darco Industries, the installation of reflective covers may be required.

This document will outline the correct installation procedure to follow optimizing the effectiveness of the covers whilst protecting them from damage.

When installed properly the reflective covers will complement the Heat Suppression Safety System, these covers will maintain a 90% thermal attenuation (0.1t) and 90% reflection of heat.

These covers can be positioned in front of identified hot spots such as the life boats, cranes, communication domes/towers and areas located in-board from the rig side where water coverage will not be positioned. Also the covers can be used to bolster areas of identified importance that may already have secondary barrier cooling in the form of 1 ½” Smart Nozzles or 2 ½” “S” & “L” poles complete with D05 or similar nozzles.

To complement the covers, instantaneous fire fittings can be placed on and around the identified hot spot locations supplying additional water cover where required as mentioned.

When installing reflective covers it is recommended that scaffolding be erected in front of the areas to be protected. By erecting these frames correctly the reflective covers will function as per their design and are greatly protected from damage due to ripping through pinch points and wind action.

To complete the correct erection of these covers the following equipment will be required though is not limited to;

- Ratchet c/w 10 & 13mm sockets
- Spanner 10 & 13mm
- Adjustable spanner
- Wire / Bolt cutters
- Pliers / snips
- Electrical tape or similar



- Wire rope



- Bull dog clamps



- Small turn buckles



- "Hilti Clamps"



- Threaded Eye-lets



Prior to carrying out any work on an offshore installation the following points should be addressed;

Complete Risk Assessments, carry out Tool Box talks and ensure any relevant permits are in place. Any outboard / work over water, or working at height may have to be covered by a permit to work.

Liaise with the persons erecting the scaffolding and position scaffolding in front of all identified hot spots ensuring that the frame is 6200mm x 3200mm, this will allow for the covers to be utilized correctly as shown below.



Where applicable the frame work should be set up as shown to give the best attenuation results without damaging the covers and equipment being protected.

It may be that the frame work is to be adapted to suit the structure, though the same principles should always apply with keeping the cover tight and in front of the proposed location.

When the frame work is built, position the “Hilti” Clamps and threaded eye-lets at each corner of the structure where the cover is to be located.



The threaded eye-lets screw into the threads on the “Hilti clamps”.



Connect the “Hilti clamps” complete with the eye-lets to the scaffolding, ensuring that they are positioned slightly wider than the covers to be installed.

By doing this the wire rope can be tightened allowing room for the snap links to take up the slack and hold the reflective cover securely.

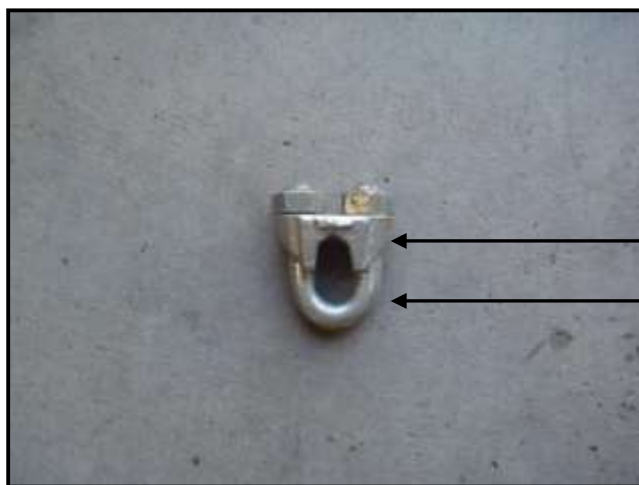
When all four “Hilti” clamps and threaded eye-lets are in place on the scaffolding position the guide wire and turnbuckles ready for tightening.

Ensure that the guide wire has at least two bull dog clamps to secure it at each end. When attaching the bull dog clamps the saying “Don’t saddle a dead horse” is worth remembering.

This phrase is referring to the way in which the bull dog clamps are positioned and fitted to the wire rope to stop the wire from slipping under tension.

The way to remember this is, the section of the wire rope that will be under tension is “alive” and the tag (remainder of the wire) is “dead”.

The bull dog clamp can be viewed as a saddle, as shown below.



← Saddle.

← Girth.

When connecting the bull dog clamp to the wire rope it should be attached as such;



← Wire under tension (Alive)

← Tag end of wire (Dead)

A space of 100mm should be left between the bull dog clamps and the tag left over should be roughly 100mm.

Once fitted and tightened, the remaining tag should be taped to the “live wire” this will smarten the installation and reduce the possibility of hand injuries through pinch points.

When measuring out the length of wire rope required, it is easiest to attach the wire with the bull dog clamps to the turn buckle first, ensuring that the turn buckle is fully wound out.

Attach the hook of the turn buckle to the eye-let on the “Hilti clamp” and measure the wire across the structure allowing sufficient length to complete the termination of the wire with the bull dog clamps. (100mm between clamps and 100mm of tag, roughly).



The clips will ensure the guide wire can be pulled tight to enable locating of the covers.

Once the correct length of cable has been ascertained, cut the wire with the wire/bolt cutters. Attach the bull dog clamps to the wires loosely, so the wire can run through them, and pull the wire tight. When the wires are tight, the operators can now tighten up the bull dog clamps to lock the wire in place. Any additional loose wire can be taken up by tightening the turn buckles.



Tighten the turnbuckles until the guide wire is secure and ready for the covers to be positioned.

The reflective covers can now be hung and secured. To facilitate the erection of the covers, connect the snap links to the covers via the built in eyes found roughly at ever 400mm along the covers both top and bottom. If the covers aren't to be secured to any wires at the sides, thin rope can be threaded through the remaining eyes on the sides of the covers to secure them entirely.

It may be necessary to retighten the turn buckles slightly once the covers have been installed to take up any slack.



The reflective covers installed correctly will limit the damage caused by wind and contact damage with the installation area.

Erection in this manner will also maintain the effectiveness of the thermal attenuation properties.