



# SCREEN CLOTH CONSTRUCTION METHODS FOR ELECTRICALLY HEATED DECKS

Wire cloths used on electrically heated screen decks require specific materials and construction methods to provide optimum heat and system longevity. It was discovered that certain screen cloths performed better and lasted longer than others.

This information was originally published in March of 1971 on Hanco Drawing D2287. The information on Drawing D2287 is still accurate; in fact many of the pictures in this document are taken directly from the original drawing.

Failure to observe this information will result in little or no heating of the wire cloth, pre-mature cloth failure, tension rail and screen heating system damage.

**NOTE: Using improper cloth for an electrically heated deck may void the factory warranty. Warranty claims for tension rails will only be considered if the hook strip and tension rail are both inspected by Hanco.**

## **Cloth and Hook Strip Materials:**

Only carbon steel and stainless steel (304 or 316) are recommended for the hook strip and wire cloth.

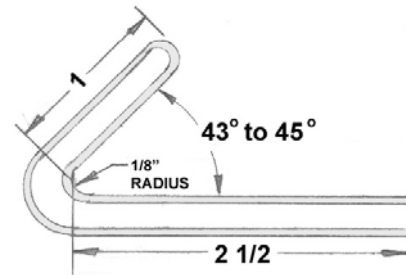
Galvanized material is never permitted. The zinc coating is not a good conductor of electricity and will damage the aluminum tension rails. Some new galvanizing processes produce a clean look to the finished galvanized material and the traditional galvanize “flecks” are not visible. The clean look galvanized coating is difficult to detect.

Copper hook strips are not recommended for two reasons. First, copper is soft and the hook strip will not maintain proper shape under tension. Second, while copper is a great conductor, most sheet copper is coated to protect it from oxidation and corrosion. This coating is an insulator and will not allow the current to pass from the tension rail to the screen cloth.

## **Required Construction Methods:**

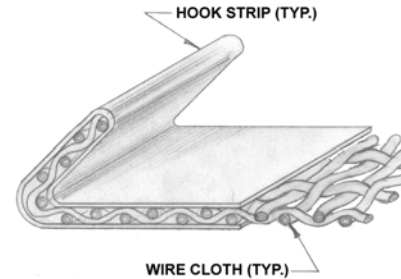
### **Standard Hook Strip Construction:**

The diagram shows basic dimensions and angles for the hook strip. Thickness is dependant on cloth wire diameter and gauge of hook strip material.



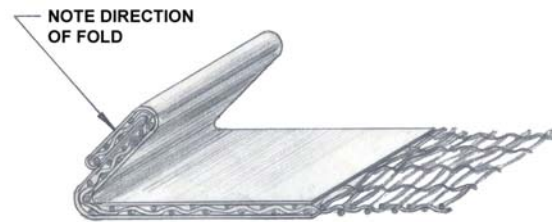
### **Assembled Hook Strip:**

A single layer of hook strip material with the wire cloth crimped inside.



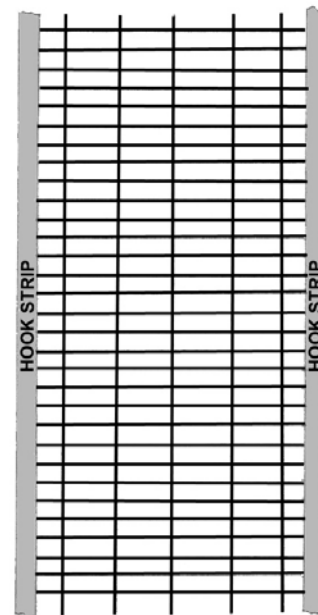
### **Assembled Hook Strip for Finer Mesh Screens:**

When finer mesh screens are required, a double fold in the hook strip may be necessary to prevent the wire cloth from pulling out of the crimp. The direction of the fold is critical to lock the cloth in place and still maintain maximum contact surface area with the aluminum tension rail for electrical conductivity.



### **Recommended Slot Direction:**

Slotted screens should have the slots running perpendicular to the hook strips for both side and end tensioned screens. This direction allows the maximum numbers of wires to conduct the current and produce heat. Heating efficiency is reduced when slots are parallel to the hook strip.

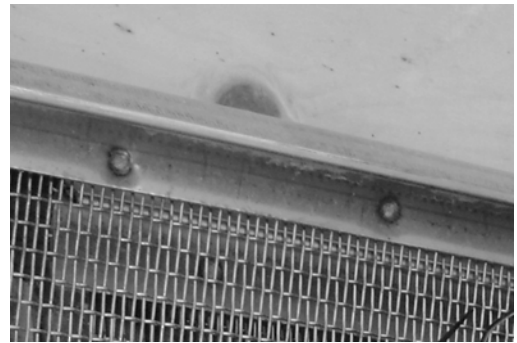
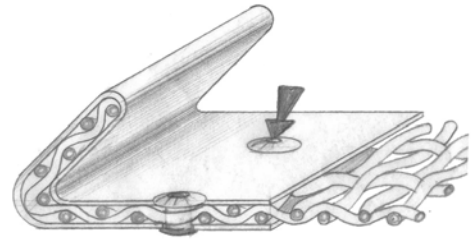


**RECOMMENDED  
SLOT DIRECTION**

## **Improper Construction Methods:**

### **Riveted/Spot Welded/Mech. Fastened Hook Strips:**

Rivets and Spot welds create hot spots around the fastened area when the heating system is operated. These hot spots can damage the aluminum rails and insulators.



### **Multi-Layered / Wrong Fold Direction Hook Strips:**

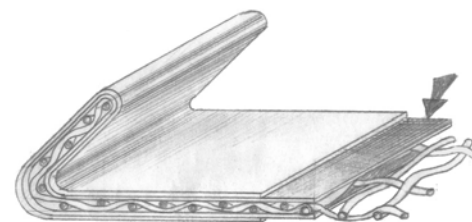
Hook strips with multiple layers only create additional connections for the electrical current to pass through. A typical screen system with 2 panels using 1 additional wrap on each hook strip (like the one pictured) is like adding eight (8) additional electrical connections into the circuit. As dust and contamination build over time, the electrical connection may be completely lost. Note that the inside hook strip is folded in the wrong direction for proper electrical contact.



### **Hook Strips with Rubber/Cloth/or Canvas Inserts:**

Hook strips with rubber, cloth, or canvas inserts will insulate the cloth from making the electrical connection to the hook strip.

NOTE: If a connection is actually established, there is a risk of the insert material catching fire due to extreme heat at the electrical connection.



### **Screens with a Backer Cloth:**

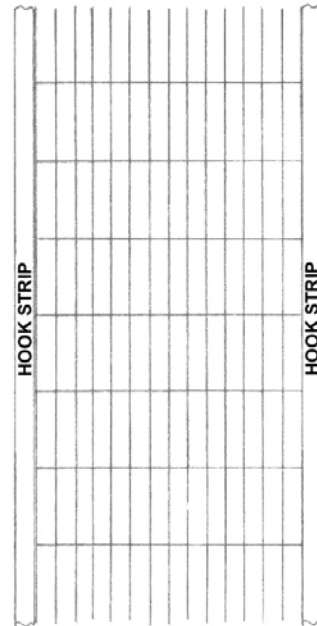
This method is typically used to support fine mesh cloth from breaking under the weight of the material. For electrically heated screens, this can create a poor connection in the hook strip and reduce heating efficiency. Note that this hook strip is folded in the wrong direction for proper electrical contact.



**Improper Construction Methods:** *(continued)*

**Improper Slot Direction:**

Heating efficiency is reduced when slots are parallel to the hook strip.



**NOT-RECOMMENDED  
SLOT DIRECTION**

For technical assistance, please visit our website at <http://www.hanco.com> or call 330.456.4728.