

## **Profile Bar for Fish Screen Applications**

Hendrick Screen has a long history of success in the production of screens used in fish protection/diversion projects and continues to be a leader in this market.

When the strength and flatness of the fish screen is critical or a screen cleaner is being used, the Hendrick Screen Profile Bar Screen construction should be specified. It is the strongest, flattest, most durable screen construction offered.

Past history has shown that some screen manufacturers will, as a substitute construction, quote "welded wedge", "resistance welded", "vee-wire" or "wire wrapped" screen "as equal" in place of the Hendrick Screen B69 Profile Bar screen. These other types of screens are usually less expensive than B69 Profile Bar screens and when represented as "an equal" screen offers a tempting cost saving alternative. You should be aware of the differences in these screens and why the B69 is purposely specified over the other less expensive welded designs.

A critical part of a mechanically cleaned screen installation is the screen itself. Construction of these welded types of screens are vastly different than the Profile Bar screens and are not an "equivalent", simply a less expensive "alternative". Differences in the screens include the following points and issues.

### **1. Construction:**

Profile Bars screen wires (bars) are over twice the height and weight of other screen wires. The taller Profile Bar makes the individual wires substantially stronger and stiffer than the wires found on other screens. The cheaper welded screens require a thicker wire to achieve reasonable wire strength. Wider wires substantially limit the open area of a screen, especially a screen with a 0.069" slot, as required on most fish projects. Profile Bar screens provide a large open area and narrow wire width with superior wire strength and stiffness.

### **2. Assembly:**

Profile Bars are assembled into "U" shaped clips with retaining pins staking the bars into place. The precision slots in the "U" clip are .250" deep holding the bars firmly in place, making the bars very resistant to bending or tilting out of place. Other screen wires are held in place by resistance (spot) welds or TIG welds.

Profile Bar screens are less subject to damage in instances where a heavy object such as a tree trunk, truck tire or animal carcass is forced against the screen by the cleaner scrappers. Profile Bar also has the greatest impact strength of the commonly used screens. Other wires can be subject to bending or weld breakage under heavy loads or impacts.

### **3. Supports:**

The stronger bars on Profile Bar screens allow the spacing between the support rods to be greater. The greater distance between support rods decreases the accumulation of stringy debris impinged on the screen.

### **4. Flatness**

Profile Bar screens are an assembly, not a weldment. The height of the bars and the absence of welds provide a very flat and stable screen face that is ideal for use with a screen cleaner. Welded screens have thousands of weld stress points that cause them to have a "wavy" surface and an overall "out of flat" perimeter. Profile bar screens are flat to .060" per sq ft of screen.

### **5. Open Area**

The new B69 profile bar wire with a .069 face width will provide a 50% open area for fish screen applications while providing much greater strength than the .069 V-wire welded constructions.

### **6. Service life/economy of use:**

The superior damage resistance of Profile Bar screens when used with a mechanical screen cleaner will provide an improved economy and less maintenance than the initially less expensive welded screens.

We ask that you consider the Hendrick Screen B69 profile bar construction and evaluate the initial price of the screen to the long term cost and maintenance of the welded screen construction when designing your next fish or diversion screen.

If you have any questions or comments, please call the Hendrick Screen Engineering Dept. at 270-685-5138. Samples of various screen types are available upon request.

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