



# Engineering Solutions

## Embossed vs. Slotted Band Worm-Drive Hose Clamps

European style worm-drive hose clamps have an embossed band versus the slotted band of the traditionally manufactured hose clamps.

over the hose when tightened. The interlocking of the hose with the band slots creates a reactive torque moment that needs to be overcome with a higher

*Embossed bands have more contact with the screw than slotted bands—thus the torque/band tension conversion generates more clamping force*

As shown in the picture below, the slotted band is extruding the hose through the slots when the clamp is tightened onto the hose.



This “cheese grater effect” not only damages the hose material, it also hinders the clamp from smoothly riding

installation torque. In addition, the small contact surface between the screw thread and the band slots generates high friction, therefore even less torque is converted into band tension.

On the other hand, the trapezoidal shape of the embossed band allows for more contact with the screw threads, therefore more torque is converted into band tension (see illustration on back).

### EFC Hose Clamps



EFC can provide you traditional slotted band clamps, as well as European style embossed band clamps.

#### Bandwidths:

Slotted: 1/2 “ or 5/8”

Embossed: 9mm or 12mm

#### Materials:

W1 carbon steel, zinc coated

W2 430 series SS band and housing

W3 all 430 series SS

W4 all 304 series SS

W5 all 316 series SS

Clamps are available in all diameters and SAE sizes.

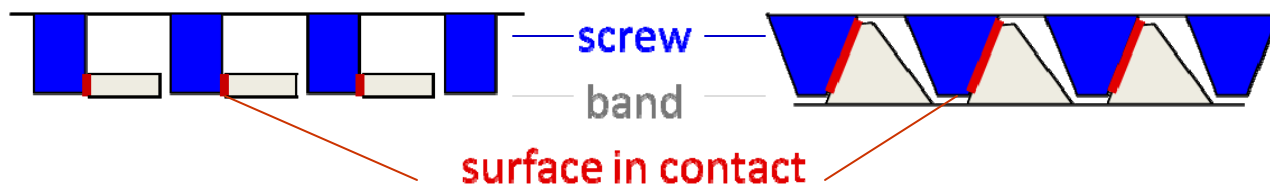
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# Embossed band versus slotted band worm-drive hose clamps

## Cross section of different band designs



### Slotted

Surfaces in contact are small and have rough edges

➔ High surface pressure

➔ High friction rate

➔ Less tightening torque is converted into band tension

### Stamped

Surfaces in contact are large and have a smooth thread surface

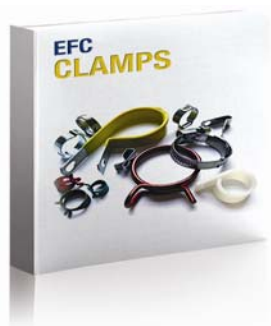
➔ Low surface pressure

➔ Low friction rate

➔ More tightening torque is converted into band tension

**At the same tightening torque, stamped band clamps are higher in band tension than slotted clamps**

Embossed band worm-drive hose clamps also have roll-formed band edges that minimize damage of the hose material as well as the risk of injury for the installer.



Contact EFC for all of your clamping and wire routing requirements.

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