# **Ultrasonic Horns**

# **Horn Theory**

The ultrasonic horn, usually one - half wavelength long at a resonant frequency, transfers mechanical vibratory energy from the transducer to the workpiece.

The ratio of a horn's output amplitude to its input amplitude is called "Gain". The horn amplitude required for a specific application is dependent on the type of plastic, type of operation, part geometry and joint design of the application.

#### **Materials**

Horns are made of materials which have good combination of acoustical and mechanical properties.

**Titanium** 

Aluminium Alloy

Steel

## **Horn Frequency**

15KHz, 20KHz, 30KHz, 35KHz & 40KHz

## **Horn Types**

Catenoidal

**Circular Slotted** 



**Circular Hollow** 



**Exponential** 



Rectangular (Round Corners)



Circular High Gain



Circular Solid



Rectangular (Square Corners)



**Rectangular Slotted** 



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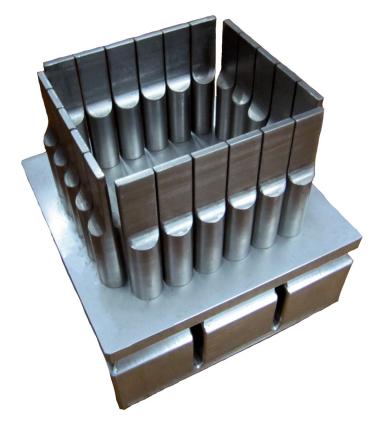
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### **Composite Horn**









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