

HORN BUILD

Far field + 3D welding



Applications are characterized as “far field welding”, if the distance between the workface of the horn and the welding area is more than approximately 6 mm. For example on products with a three dimensional surface like half shells, cylindrical bodies etc.

For the weld ability of three dimensional bodies the characteristics of the synthetic materials are very important. The material must be qualified to pass on the ultrasonic into welding area and to the energy director. These qualifications determine the distance between horn and welding surface of the product.

With soft bond synthetic materials the distance is small, with hard ones for example acrylonitrile-butadiene-styrene copolymer (ABS) or polycarbonate (PC), the distance can be 20 mm and more.

Crucial for a successful “far-field welding”, is the correct design of the horn. Usually it is barely adequate to shift the contour of the 3D welding part into the welding area of the horn.

Particularly important is the proper design of the horns for products with sensible electronic components for example: USB-Sticks, mobiles, technical components for the medical industry etc.

A wrong designed horn a.k.a. sonotrode can potentially damage the electronic components inside of the products.

Call us, we'll examine your applications...

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