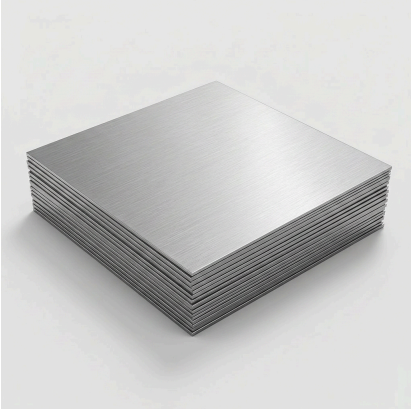
HARDNESS MEASUREMENT ON SHEET METAL WITH SONODUR

Thin sheets vibrate during testing, risking deformation or damage. SONODUR 3 enables non-destructive UCI hardness testing with tailored probes.



THE CHALLENGE

Sheet metal components – from automotive panels to boiler plates – must meet defined hardness specifications during incoming inspection and production. Thin sheets, especially below 2 mm, are highly flexible and prone to vibration during testing. Conventional hardness testing may cause deformation or require destructive sampling, which is unsuitable for large-format plates.

THE SOLUTION

SONODUR 3 applies the UCI method for non-destructive hardness measurement directly on the shop floor. For thin sheets, reduced test forces are used to minimize resonance effects. Sheets below 2 mm thickness are coupled to a stable metallic base plate and clamped close to the measurement position. Depending on thickness, specific probes (M3, M8, H10, H50) ensure optimized signal stability.

THE RESULT

Hardness values can be determined quickly and reliably without damaging the material. The method works independently of surface coatings and optical evaluation, as measurement is based on frequency shift. Flexible probe selection allows testing from approximately 0.3 mm thickness upwards, ensuring efficient quality control across a wide range of sheet formats.

SONODUR 3

Portable, high-quality and suitable for industrial use - the user-friendly SONODUR 3 sets standards in the field of mobile materials testing

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