HARDNESS MEASUREMENT ON HEAT AFFECTED ZONES (HAZ) WITH SONODUR

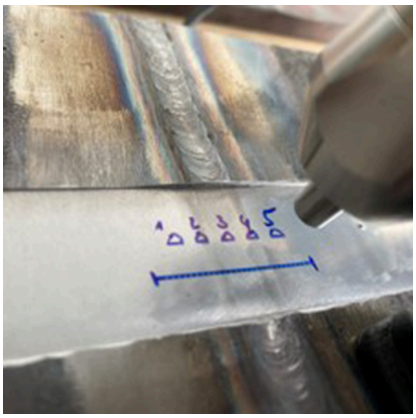
Excessive hardness in the HAZ of welds risks cracking and failure. SONODUR 3 delivers precise, non-destructive UCI hardness testing on-site.

THE CHALLENGE

In welded components such as pipes and boilers, the heat-affected zone (HAZ) is particularly critical. Rapid cooling and thermal stresses may lead to crack formation or unwanted precipitation hardening, especially in high-alloy steels. Excessive hardness in the HAZ reduces ductility and increases the risk of failure under service conditions.

THE SOLUTION

Using the UCI method, SONODUR 3 enables precise Vickers hardness measurements directly on weld seams. The test procedure follows a defined five point pattern: base material, HAZ, weld metal, opposite HAZ and opposite base material. This structured approach allows reliable assessment of hardness distribution and weld quality according to specification.



THE RESULT

Repeatable and non-destructive measurements can be performed on-site, even on complex geometries and in various orientations. The mobile solution ensures fast evaluation without interrupting operation. Reliable hardness control in the HAZ enhances safety and long-term performance of welded components in power and pressure applications.

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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