

# 2009 AEI Tech Awards

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## Hot-stamped tailor-welded blanks

With its first application in a production car, **ThyssenKrupp Steel's** hot-stamped tailor-welded blanks are used in the B-pillars, rear side members, and tunnel reinforcements of the **Audi A5** coupe and the new **A4**. This technology is used mainly in the production of crash-relevant components. In addition to rear and front members, typical applications are bumpers or roof rail reinforcements. With the hot stamping process, a manganese-boron-alloy steel designed specially for the process is first heated to 880 to 950°C (1616 to 1742°F) in a furnace, then stamped into a component, and cooled very quickly in the die at a rate of more than 30 K/s (54 R/s). The high blank temperature during stamping ensures forming behavior, and the subsequent rapid cooling results in an extremely hard microstructure in the material. This produces a tensile strength of around 1500 MPa (217,560 psi).

*For more information, visit booth 1155*

