

WorldAutoSteel Releases Latest Advanced High-Strength Steel Application Guidelines

Latest edition of leading global resource focuses on smarter engineering and manufacturing with AHSS

24 November, 2025 Brussels, Belgium– [WorldAutoSteel](https://www.worldautosteel.org), the automotive group of the World Steel Association, has released the latest edition of its Advanced High-Strength Steel (AHSS) Application Guidelines. The globally recognised resource provides vehicle manufacturers, automotive engineers and designers with the most current evidence and technical best practices for the use of AHSS in vehicle design and production.

“In less than a decade, the AHSS portfolio has nearly doubled – from 38 commercially available grades in 2017 to nearly 70 today – giving engineers unprecedented flexibility to design lighter, stronger, and more sustainable vehicles,” said Russ Balzer, Technical Director, WorldAutoSteel. “The next frontier in AHSS innovation is not just about developing new grades but mastering the ones we already have - optimizing manufacturing techniques and processes to unlock their full potential in tomorrow’s passenger vehicles.”

What’s New

The latest update to the AHSS Application Guidelines reflects the global automotive industry's shift toward smarter, data-driven engineering, offering practical insights into metallurgy, forming, and joining techniques that optimize performance while reducing mass, risk, and production time.

- **Smarter materials** – The Guidelines reflect that AHSS grades and coatings are engineered, characterized, and applied as systems. Chemistry, microstructure, coating, forming route, and joining method are designed together to deliver exactly the performance needed with less mass, lower risk, and faster industrialization.
- **Smarter forming** – Expanded guidance on simulation and testing support an increasingly digital, “first-time-right” culture in body-in-white engineering, where forming processes are validated virtually before any physical tooling is committed, to reduce costly trial-and-error on the shop floor.
- **Smarter joining** – New recommendations on techniques such as paint-bake hardening, crash-rate testing, and MIG brazing echo a more data-driven, coatings-aware, and crash-validated approach to joining, ensuring each joint delivers the required strength, ductility, and durability with minimal mass, heat, and risk.

“The updated Guidelines give automakers the knowledge and process confidence they need to turn the latest metallurgy, forming, and joining know-how into repeatable results on the shop floor,” added Ingo Olschewski, Director, WorldAutoSteel. “The goal is simple: lighter structures, outstanding crash performance, faster industrialisation, and lower lifecycle emissions.”

AHSS Application Guidelines are available free of charge in an online, searchable database at ahssinsights.org.



NOTES TO EDITORS

- Join AHSS Application Guidelines technical editors Dr.-Ing. Max Biegler and Dr. Danny Schaeffler for a steelTalk on 2 December. The one-hour webinar is free of charge and will provide an overview of the latest updates and best practices introduced in the Guidelines. Participants will also gain a clear understanding of how these updates reflect current developments in steel technology and how to effectively apply them in modern vehicle design and manufacturing. Click [here](#) to register.
- Ahssinsights.org is accessed by nearly 125,000 users each year, and the most visited pages are basic information on defining steels and steel grades, as well as information on testing and tensile properties.

[Click to watch the AHSS video](#)

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About WorldAutoSteel

[WorldAutoSteel](#) is a group of the world's largest automotive steel producers, focused on advancing vehicle manufacturers' use of steel for future mobility through strategy, engineering, research, and advocacy programmes. The organization initiates market insights, technical studies and engineering programs to support the automotive industry with practical tools, guidelines, and innovative vehicle concepts as well as component designs. WorldAutoSteel is the automotive group of the [World Steel Association](#). Both organizations are headquartered in Brussels, Belgium.