

Steel

A new, wider range of dual-phase steels

A tailored portfolio of cold-rolled
sheet products for the next
generation of lighter automobiles.



thyssenkrupp



We at thyssenkrupp have widened our portfolio of cold-rolled dual-phase steels well beyond the conventional high-strength steels. We have added new grades which as well as offering high energy absorption and deformation resistance also display enhanced cold-forming properties – and allow substantial weight savings in the car body. For the vehicles of the future: eco-friendly, resource-efficient, safe, comfortable, and with low production and running costs.

A wider range with a lot to offer.

Alongside our proven steel concept, our extended portfolio of cold-rolled dual-phase steels now offers you:



The full spectrum of high-strength classes – from 500 to 1,200 MPa



Attractive characteristics for crash-relevant parts



New degrees of freedom in the cold forming of ultrahigh-strength structural parts



Worldwide availability to recognized VDA standard

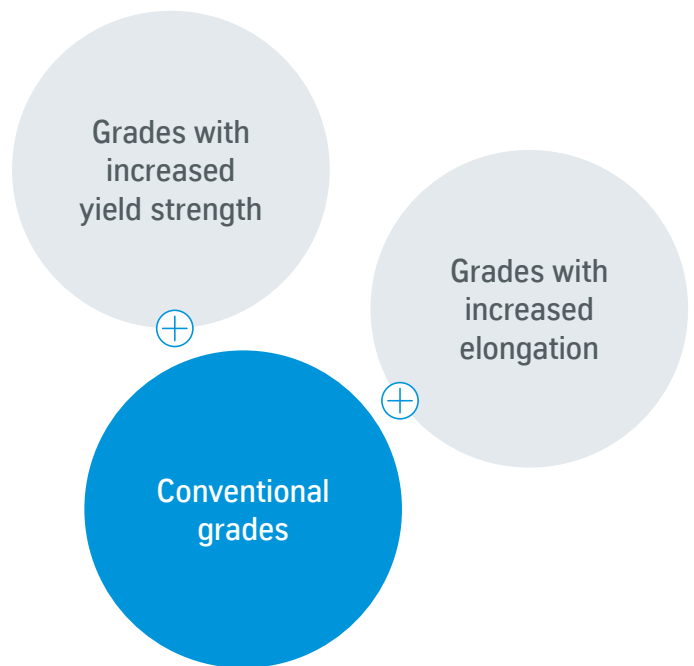
We have used the opportunity created by the new VDA 239-100 standard for cold-rolled sheet to structure our dual-phase steel portfolio clearly according to key applications and add several interesting new products.

For you this means you can make more accurate decisions and be sure you're getting the best materials for your needs – and from a single source.

Good things come in threes. At thyssenkrupp.

High strength, good formability or enhanced crash performance: with our dual-phase steels we have the right solution for every application.

We offer a portfolio of cold-rolled dual-phase steels that opens up new opportunities and degrees of freedom. A coordinated range, logically laid out, across all strength classes. As well as the conventional grades for universal use we now offer additional options for increased yield strength and ductility. They provide added potential for crash performance and part complexity in lightweight structures – while retaining our proven steel concept and without any restrictions on processing and joining.

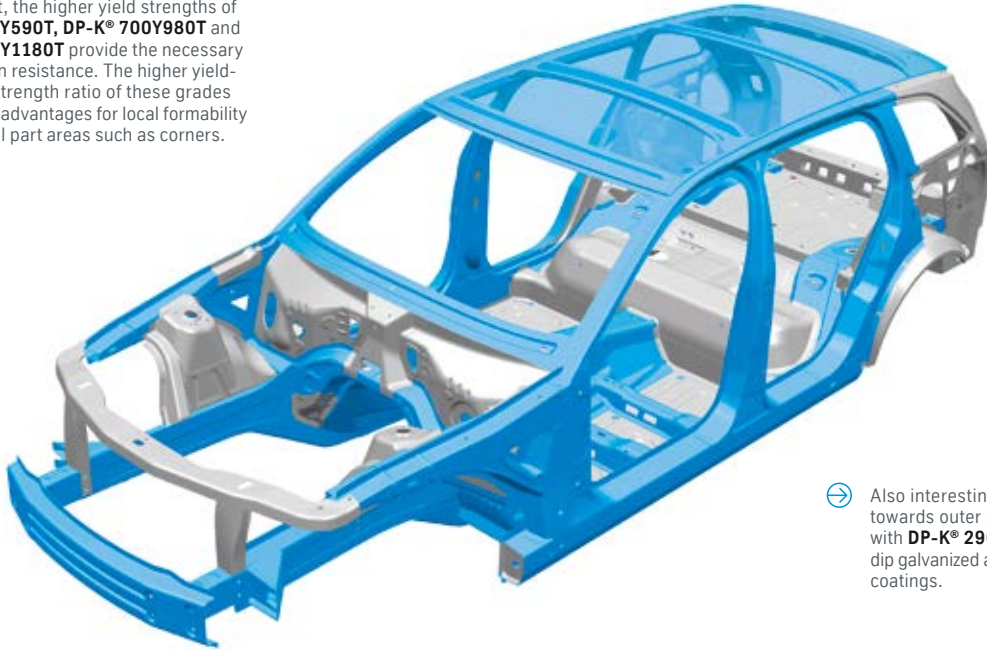


Portfolio of cold-rolled dual-phase steels

| | Strength classes | | | | |
|-------------------------------------|------------------|--------------------|--------------------|-----------------|--------------------|
| | 500 MPa | 600 MPa | 800 MPa | 1,000 MPa | 1,200 MPa |
| Conventional grades | DP-K® 290Y490T* | DP-K® 330Y590T* | DP-K® 440Y780T* | DP-K® 590Y980T* | DP-K® 780Y1180T |
| Increased yield strength $R_{p0.2}$ | | DP-K® 420Y590T | | DP-K® 700Y980T* | DP-K® 900Y1180T |
| Increased elongation A80 | | DP-K® 330Y590T DH* | DP-K® 440Y780T DH* | | DP-K® 850Y1180T DH |

For each strength class a variant with increased yield strength as well as a variant with increased ductility is available. The grade names are based on material sheet VDA 239-100 and the grades marked * fulfill its specifications.

- ⌚ If the focus is on intrusion protection in a side impact, the higher yield strengths of **DP-K® 420Y590T**, **DP-K® 700Y980T** and **DP-K® 900Y1180T** provide the necessary deformation resistance. The higher yield-to-tensile strength ratio of these grades also brings advantages for local formability in individual part areas such as corners.



- ⌚ Also interesting is the trend towards outer skin applications with **DP-K® 290Y490T** with hot-dip galvanized and ZM Ecoprotect® coatings.

- ⌚ Grades **DP-K® 330Y590T** and **DP-K® 440Y780T** are proven solutions for longitudinal and cross members. Variants **DP-K® 330Y590T DH** or **DP-K® 440Y780T DH** are ideal for higher demands on forming or crash performance.

- ⌚ **DP-K® 780Y1180T** and **DP-K® 900Y1180T** set new standards as ultrahigh-strength cold forming grades in the 1,200MPa class. Main uses are rockers and side impact beams.

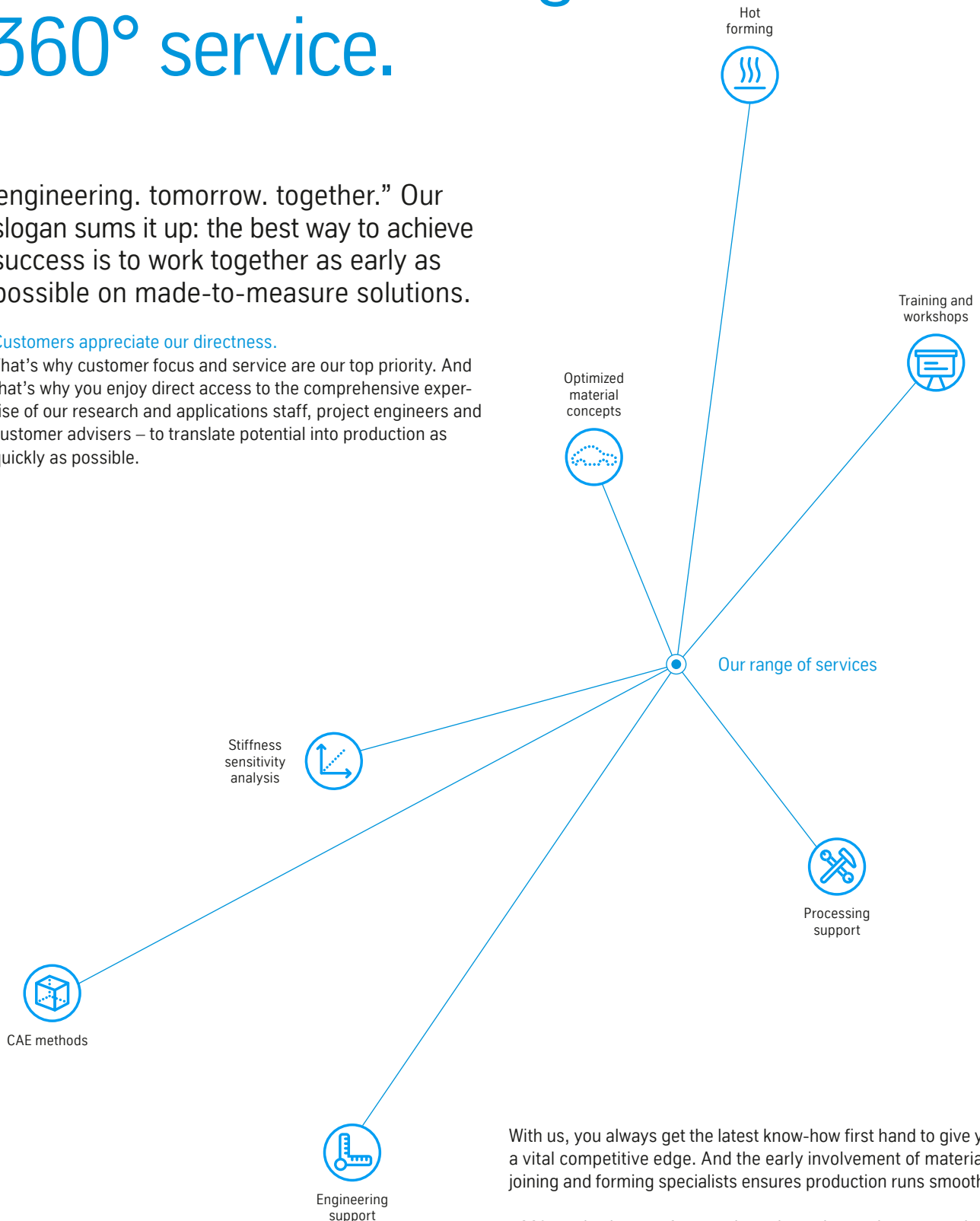


20° in cold forming. 360° service.

“engineering. tomorrow. together.” Our slogan sums it up: the best way to achieve success is to work together as early as possible on made-to-measure solutions.

Customers appreciate our directness.

That’s why customer focus and service are our top priority. And that’s why you enjoy direct access to the comprehensive expertise of our research and applications staff, project engineers and customer advisers – to translate potential into production as quickly as possible.



With us, you always get the latest know-how first hand to give you a vital competitive edge. And the early involvement of materials, joining and forming specialists ensures production runs smoothly.

360° service is one of our trademarks at thyssenkrupp – and personal advice is the key to success.



No expense too great.

Our advanced high-tech steels place high demands on production equipment and process control. That's why we invest continuously in cold rolling, hot-dip coating and other production equipment for our ultra-high-strength products.

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