

Steel

# perform<sup>®</sup> – strong yet formable.

High-strength cold forming steels  
as an attractive solution for the  
construction of special-purpose  
vehicles.



thyssenkrupp



Take advantage of the properties of perform<sup>®</sup> steels from thyssenkrupp today to cut costs, resource consumption and environmental impact in the manufacture of special-purpose vehicles. perform<sup>®</sup> steels combine high strength with excellent cold forming characteristics, enabling weight reductions while offering you excellent perspectives for designing components with complex geometries.

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# Strength meets formability – in perform<sup>®</sup> steel from thyssenkrupp.

Opposites attract – perform<sup>®</sup> proves it every day with widely divergent properties that improve your processes. Its unique performance profile includes features such as:



Ideal for complex geometries



Low press brake and bending radii, good cutting and welding properties



High strength paired with good toughness



perform<sup>®</sup> 700 offers tighter press brake bending radii than the EN standard grade S700MC

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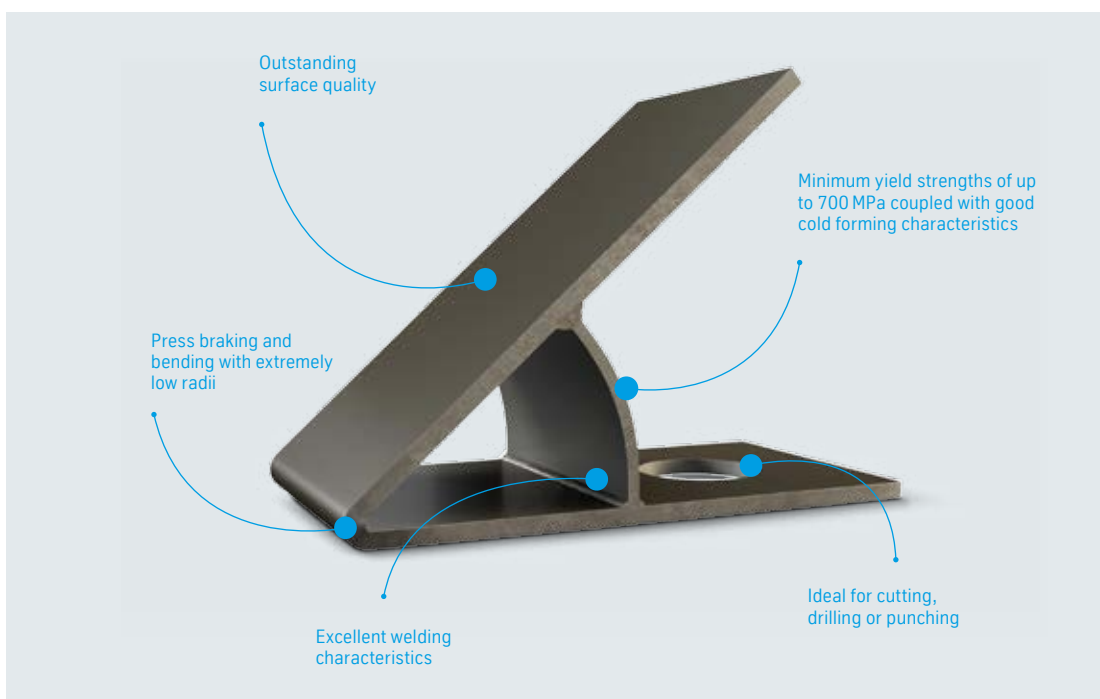
# Systematic performance.

The high strengths and qualities of perform<sup>®</sup> steels are the product of years systematic research work. Their low carbon content and sophisticated micro-alloying concept with a special thermomechanical rolling process provide them with excellent cold forming characteristics and welding properties. The extremely fine-grain structure makes for excellent toughness. perform<sup>®</sup> steels offer the ideal combination of strength and formability.

## Enhanced-strength

perform<sup>®</sup> steels are ideal for complex component geometries in special-vehicle construction

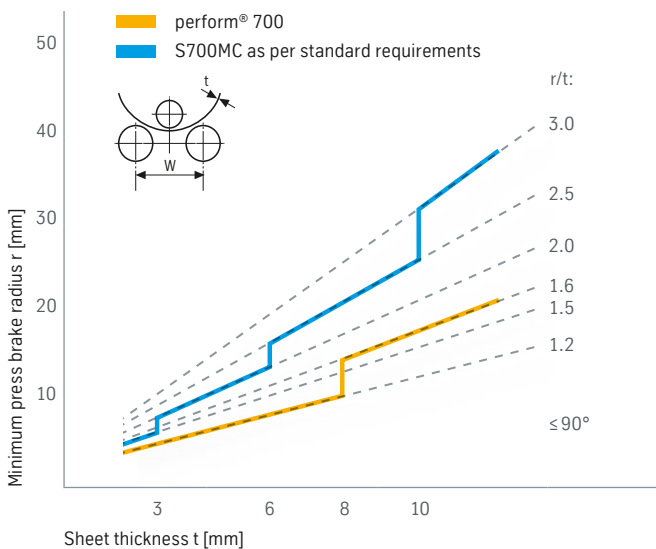
- ⊖ Longitudinal and cross beams for trailers
- ⊖ Lifting and working platforms
- ⊖ On-board cranes and their booms
- ⊖ Dump truck side walls



### Forming with ease.

Thanks to their particularly fine-grain structure and high cleanliness, perform<sup>®</sup> steels deliver excellent forming characteristics. All grades are ideal for press braking and bending with low radii and can also be punched and sheared with no problems. These steel grades are suitable for stretch forming, deep-drawing and multi-stage forming processes. The graph shows the significantly better press brake radii for perform<sup>®</sup> 700 compared with standard requirements.

### Press brake radii perform<sup>®</sup> 700 vs. S700MC



perform<sup>®</sup> 700 is significantly better suited to bending and press braking than to the comparative grade according to DIN EN 10149-2.

### Visibly superior.

In special-purpose vehicle construction, the good surface quality of perform<sup>®</sup> is an important advantage for the painting of exposed surfaces. perform<sup>®</sup> steels are also available in pickled or skin passed form in the variants uncoiled, lightly oiled, oiled and heavily oiled.

### Economically a cut above.

Laser and plasma cutting processes offer enormous economic advantages. perform<sup>®</sup> is available in a special Lasercut variant up to 10 mm thicknesses. The corresponding grades perform<sup>®</sup> 315/355/380/420-LC are characterized by low residual stresses and excellent flatness, making them ideal for instance for long, narrow components that must meet very high dimensional tolerances.



- ⊕ Minimum yield strengths of 300 to 700 MPa coupled with excellent cold forming characteristics
- ⊕ Press braking and bending with extremely low radii
- ⊕ Notch impact energy 27 J at -40 °C
- ⊕ Outstanding surface quality
- ⊕ Excellent welding characteristics (low CE/CET values)
- ⊕ perform<sup>®</sup> LC Lasercut grades with low residual stress and very good flatness specially created for laser and plasma cutting

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