

# **Advanced Steel Manufacturing and Stamping**

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[BoronExtrication.com](http://BoronExtrication.com)

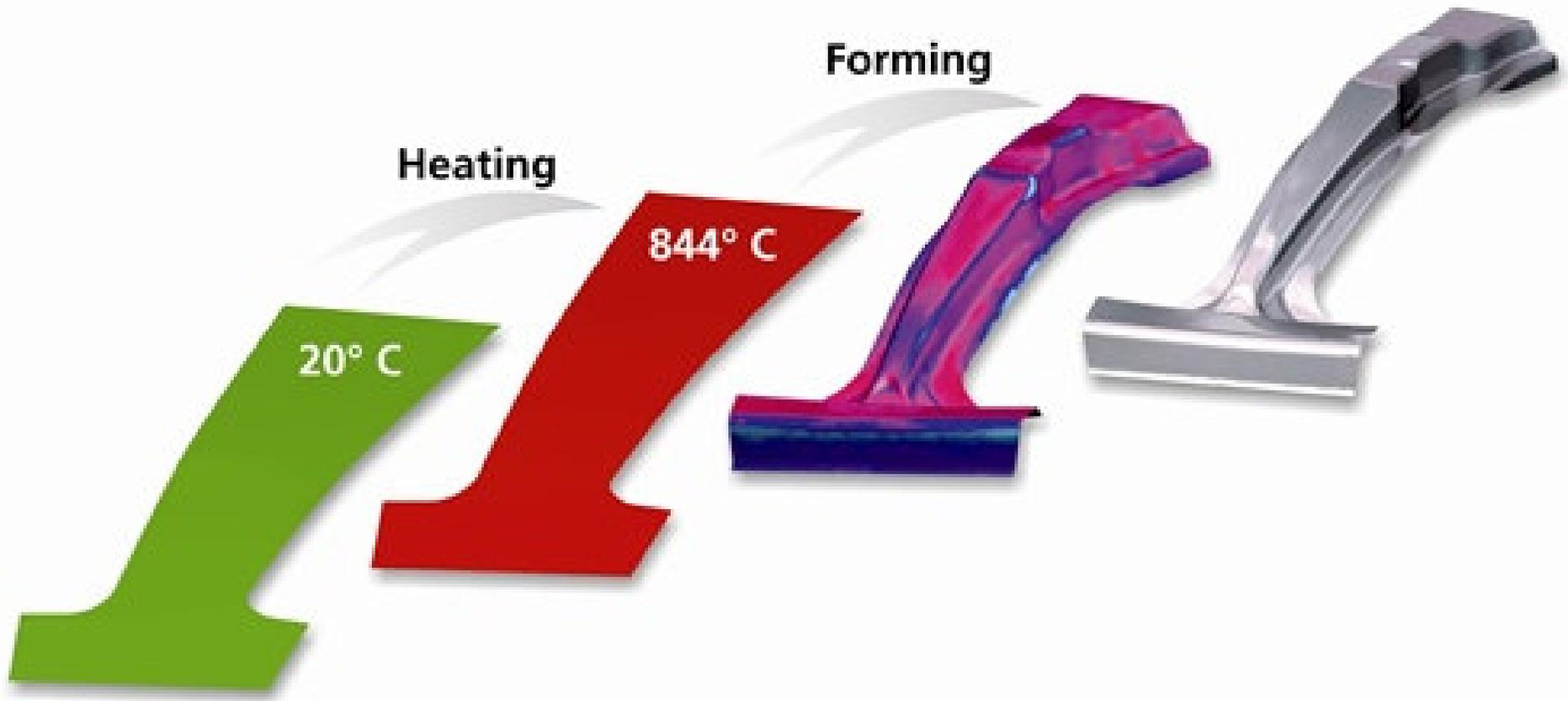
# Module Overview

- Hot stamping advanced steels
- What are tailored blanks?
- Where are tailored blanks used?

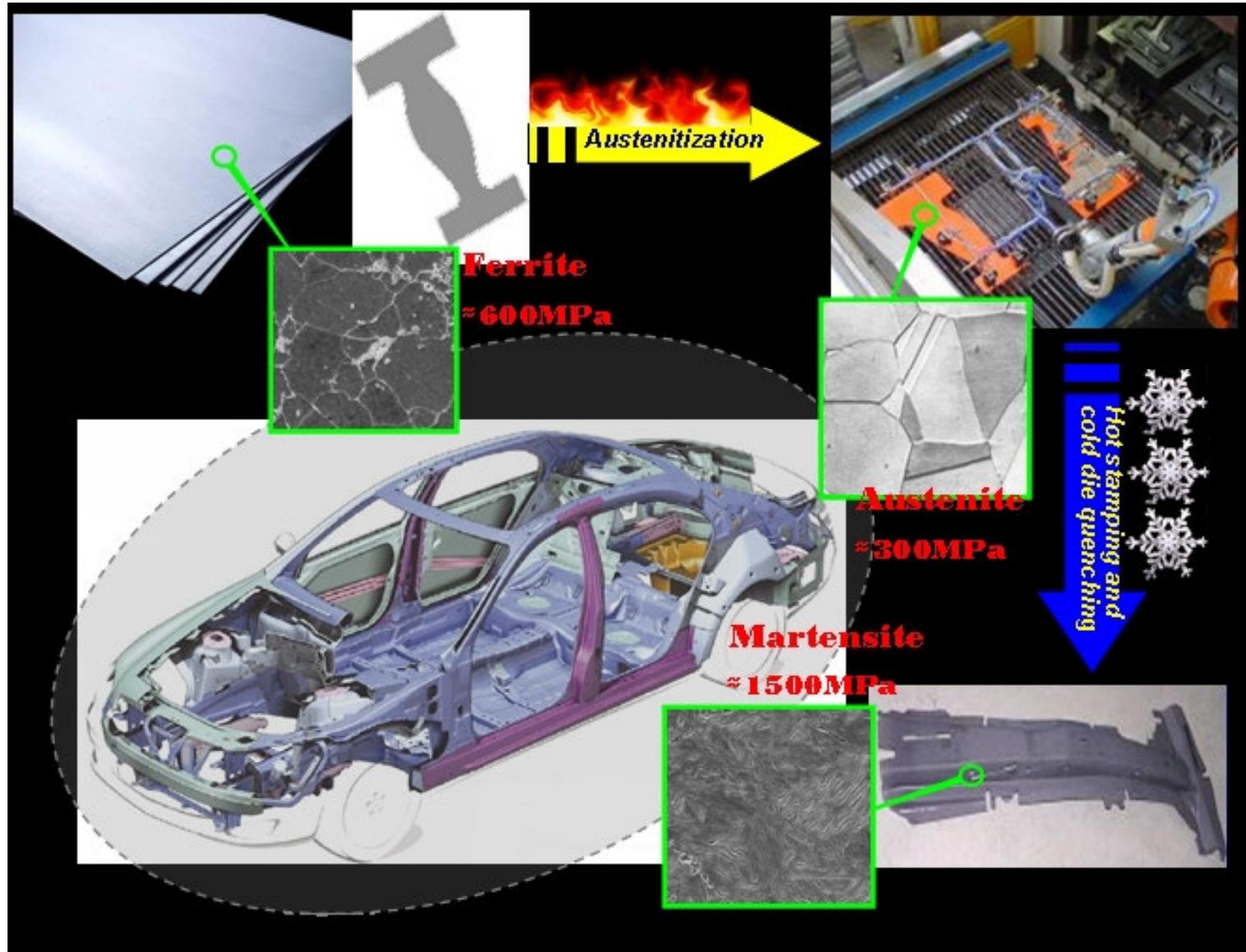
# Hot Stamping



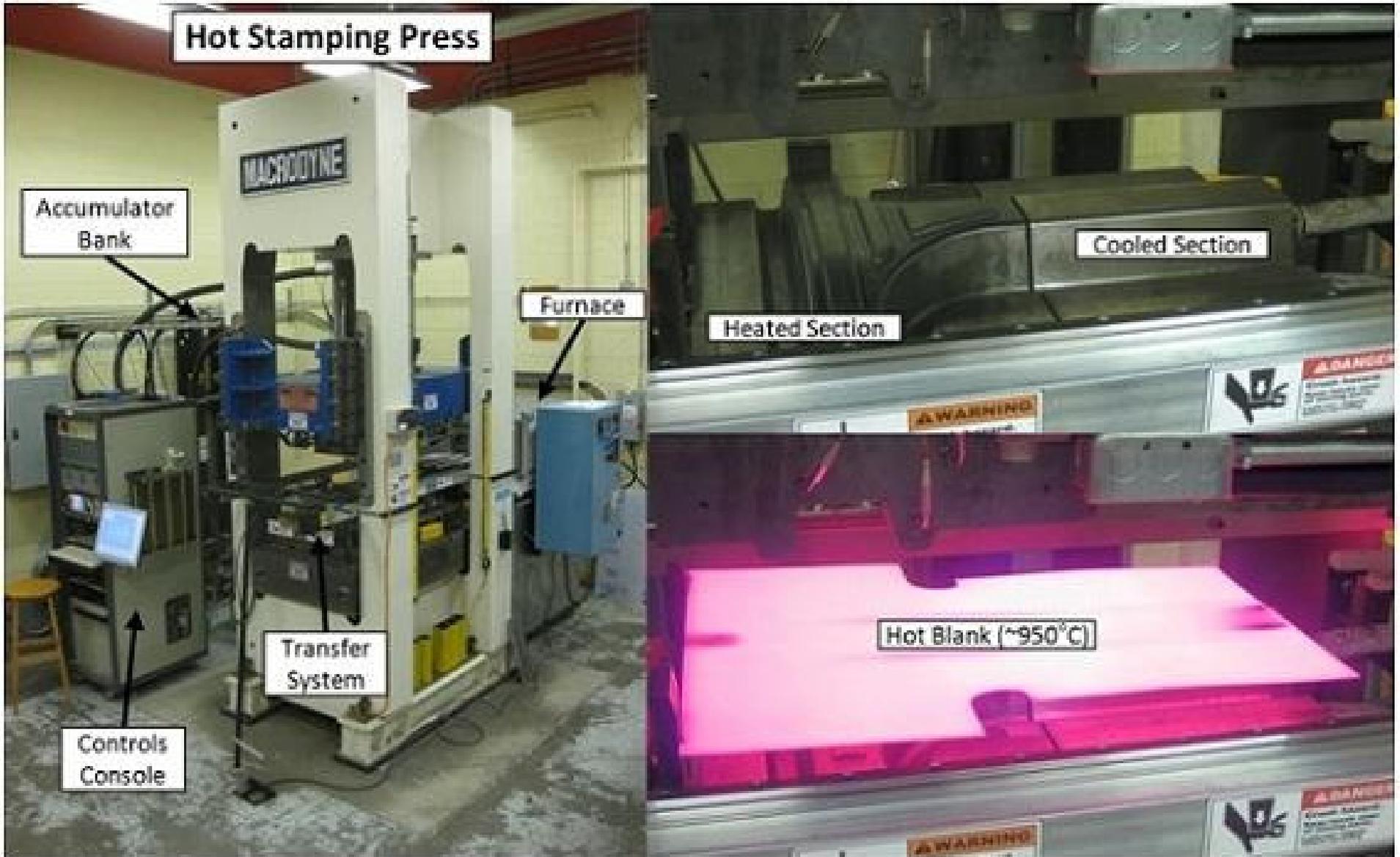
# Hot Forming of a B-pillar



# Hot Stamping of Boron Steel



# Hot Stamping Press

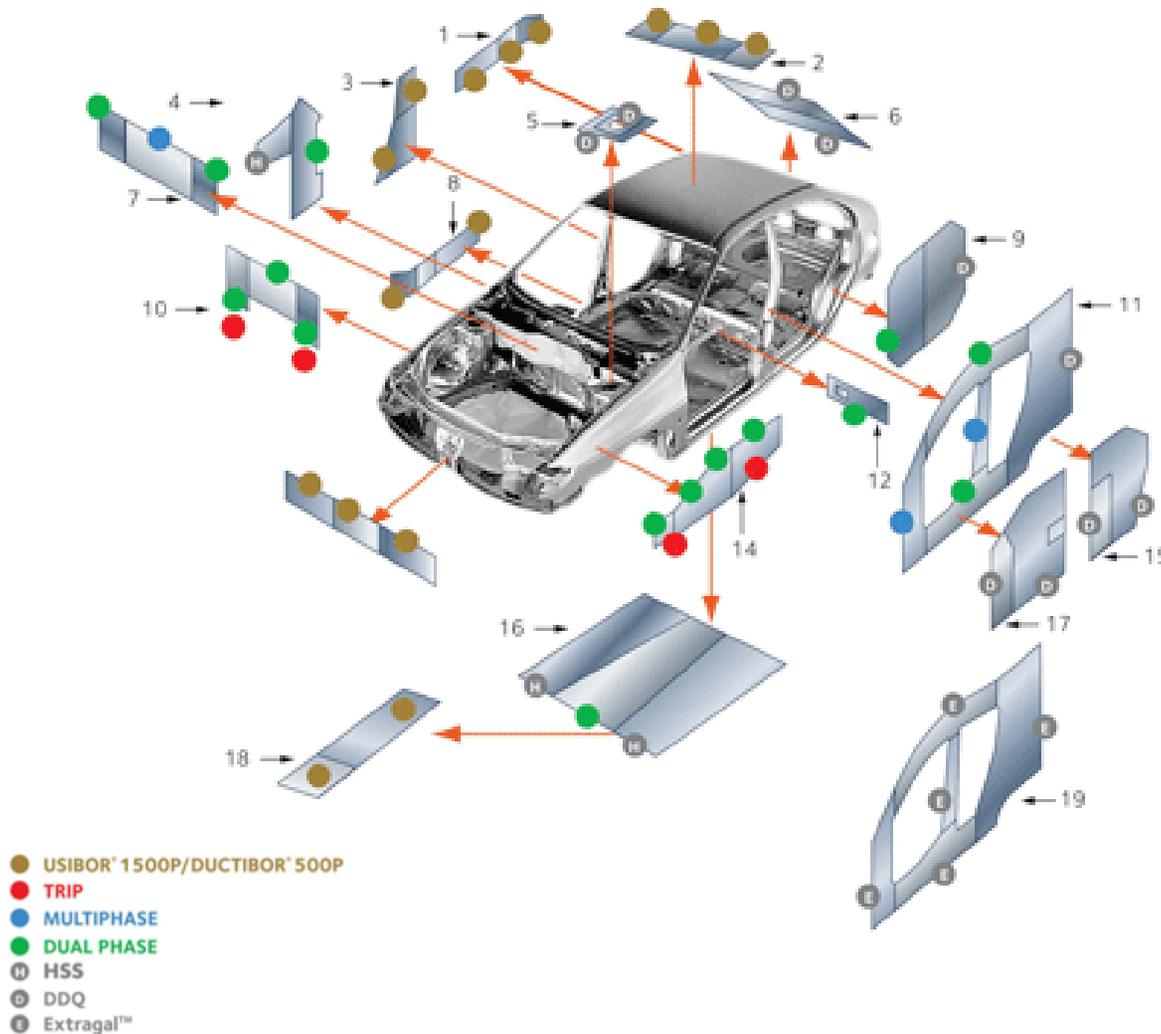


# Tailored Blank

- A tailored blank is a sheet of steel that combines several grades and / or various thicknesses and / or different coatings, the different parts being laser welded together, in order to place the best material at the best place in the right thickness for a real “tailor-made” solution for the customer after stamping.

# Vehicle Applications

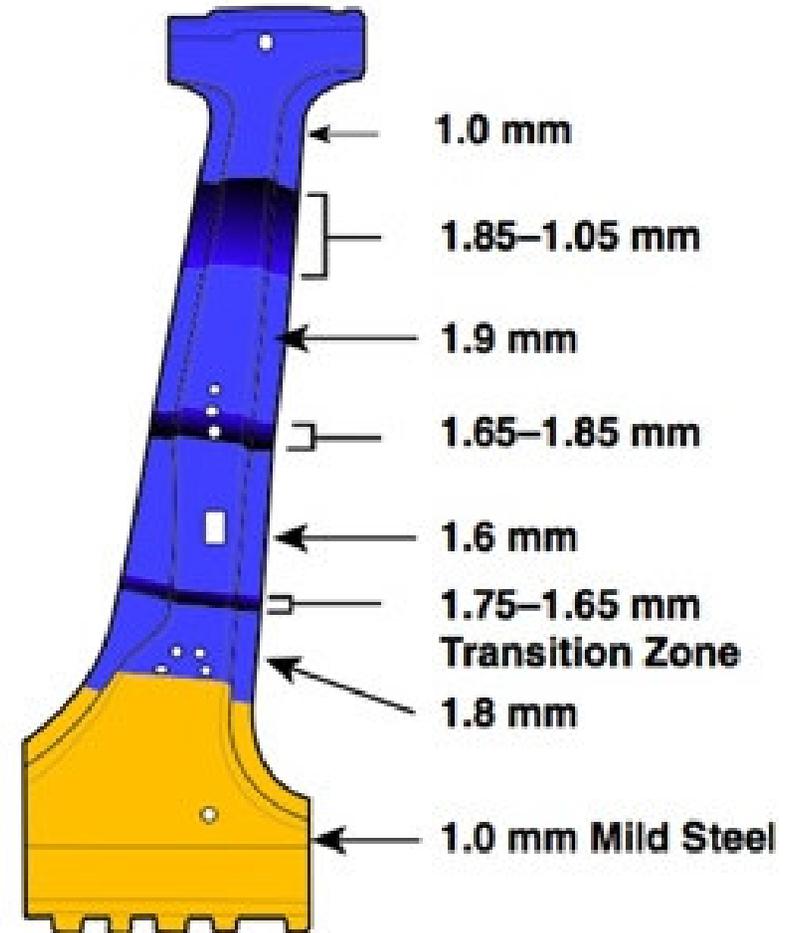
1. Rear Rails
2. Roof Reinforcement
3. B-Pillar
4. A-Pillar
5. Shock Tower
6. Tailgate
7. Cross Member
8. Side Member
9. Wheel House
10. Engine cross member
11. Body side
12. Seat cross member
13. Bumper reinforcement
14. Front rail
15. Rear door
16. Floor panel
17. Front door
18. Tunnel reinforcement
19. Body side outer



# Laser Welded Tailor Blank



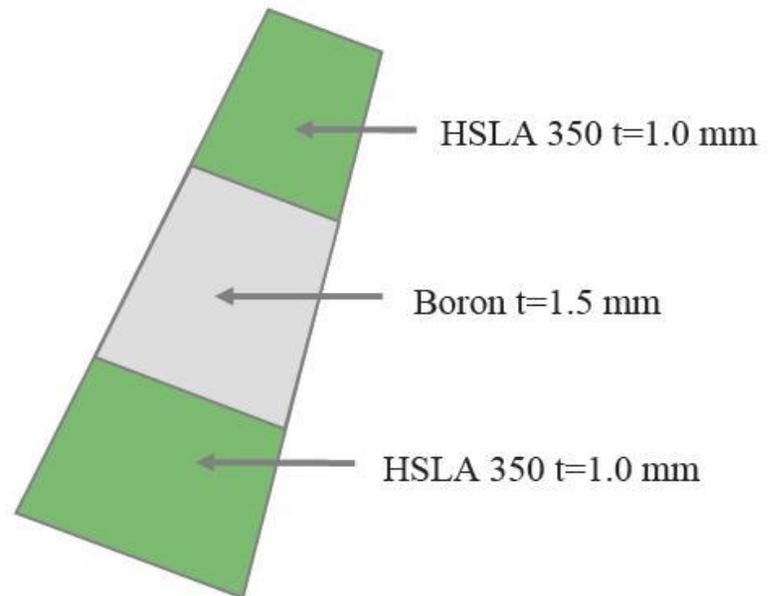
# Tailor-Rolled Blank

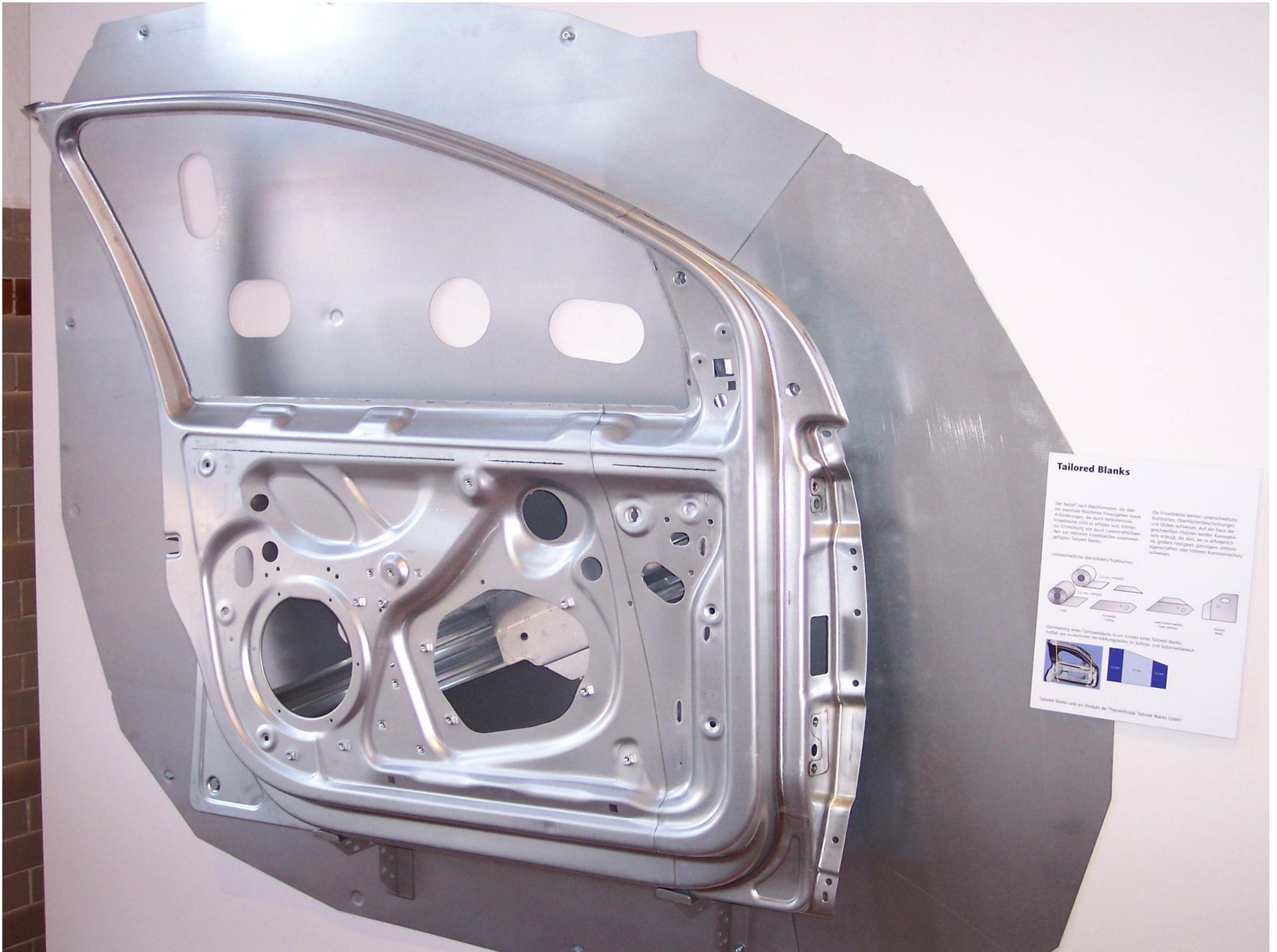


## B pillar Reinforcement



## Tailored Blank



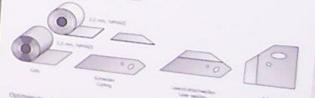


### Tailored Blanks

Der Restloß nach Blechformen, die über die maximale Maßtoleranz hinausgehen sind Auforderungen, die durch herkömmliche Einzelstücke nicht zu erfüllen sind, führen zur Entwicklung von durch Laserstrahlverfahren aus mehreren Einzelblechen zusammengefügten Tailored Blanks.

Die Einzelbleche können unterschiedliche Stahlarten, Oberflächeneigenschaften und Dicken aufweisen. Auf der Basis der Teile erzeugt, die dort, wo es erforderlich ist, gewisse Festigkeit, günstige Umform-eigenschaften oder höheren Korrosionsschutz aufweisen.

#### Unterschiedliche Blechdicken/Qualitäten



Optimierung eines Tailormetalls durch Einsatz eines Tailored Blanks. Erfordert ein unterschiedliches Werkstoffverhalten in Schweiß- und Schweißbereich.



Tailored Blanks sind ein Produkt der ThyssenKrupp Tailored Blanks GmbH

# Audi A6 Body Structure



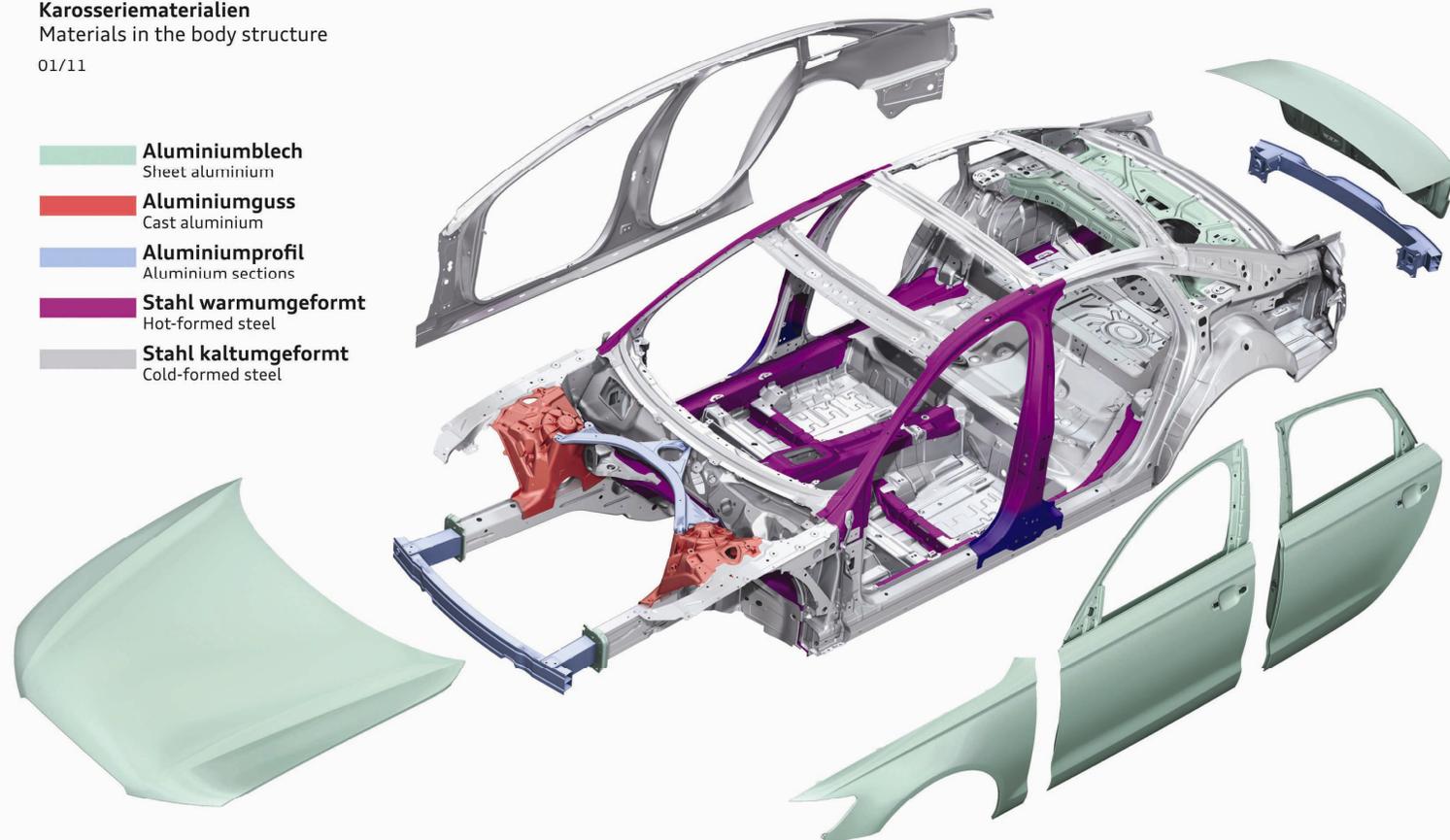
Audi

## Audi A6

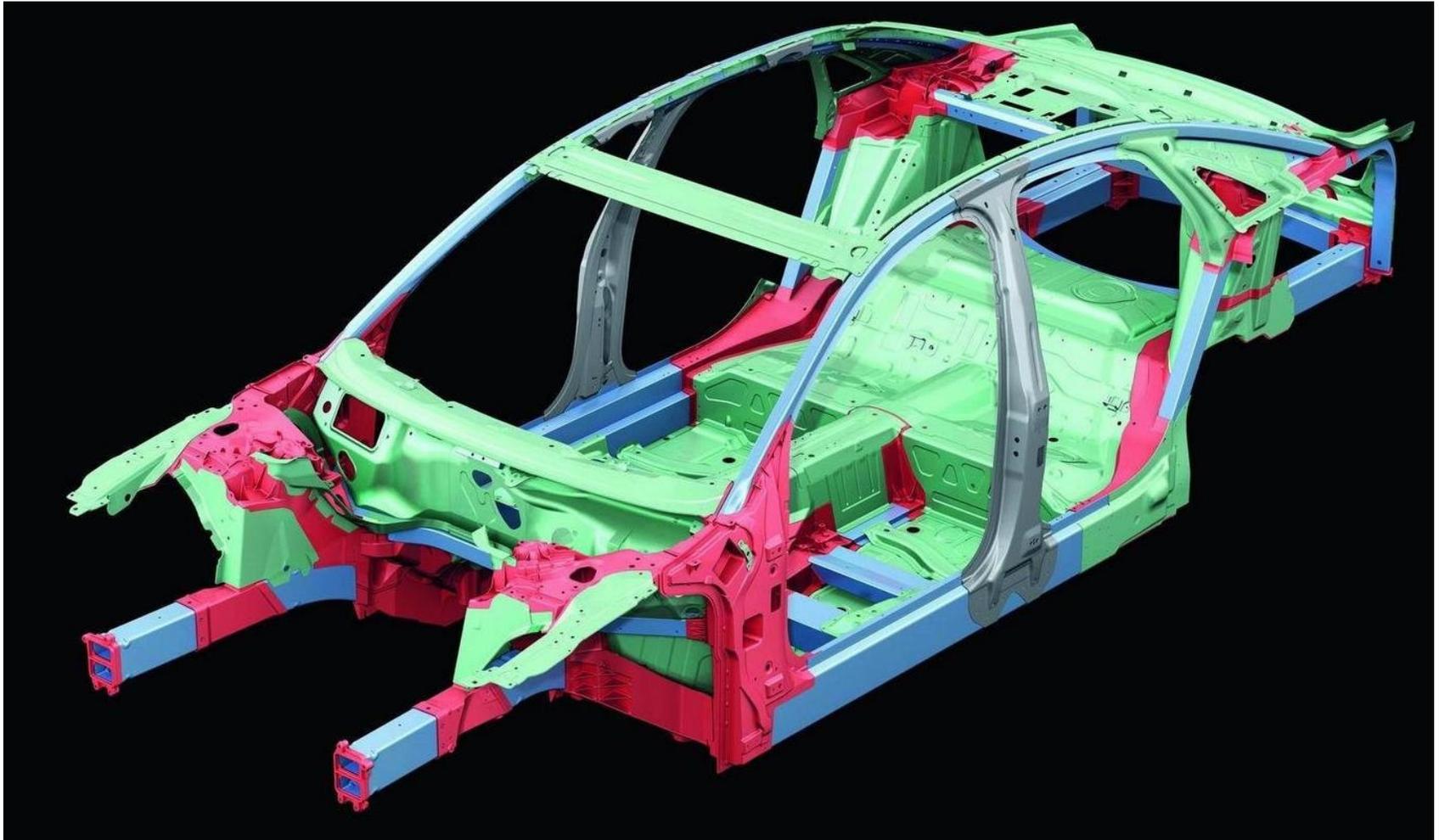
Karosseriematerialien  
Materials in the body structure

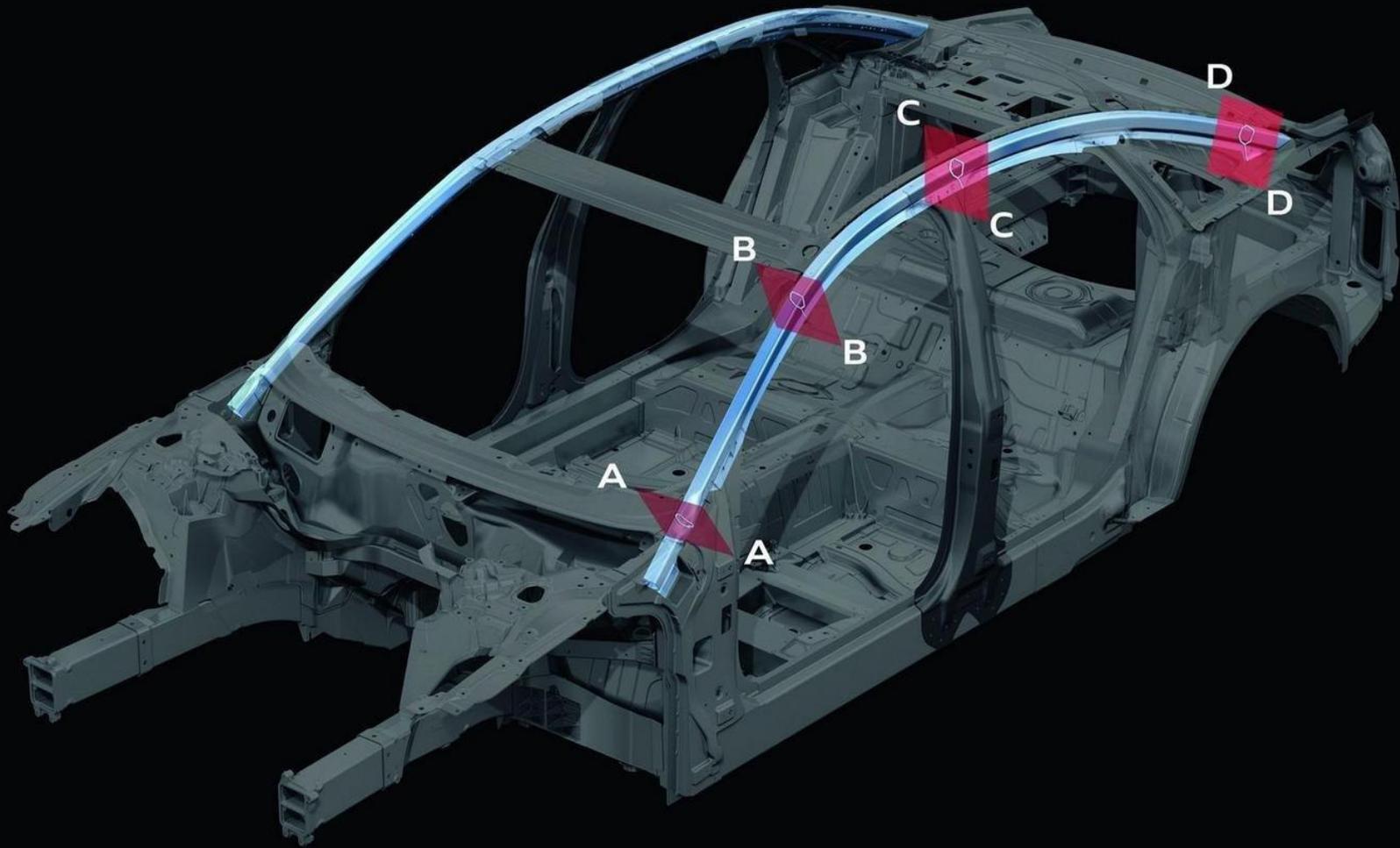
01/11

-  **Aluminiumblech**  
Sheet aluminium
-  **Aluminiumguss**  
Cast aluminium
-  **Aluminiumprofil**  
Aluminium sections
-  **Stahl warmumgeformt**  
Hot-formed steel
-  **Stahl kaltumgeformt**  
Cold-formed steel



# Audi





A-A



B-B



C-C



D-D

