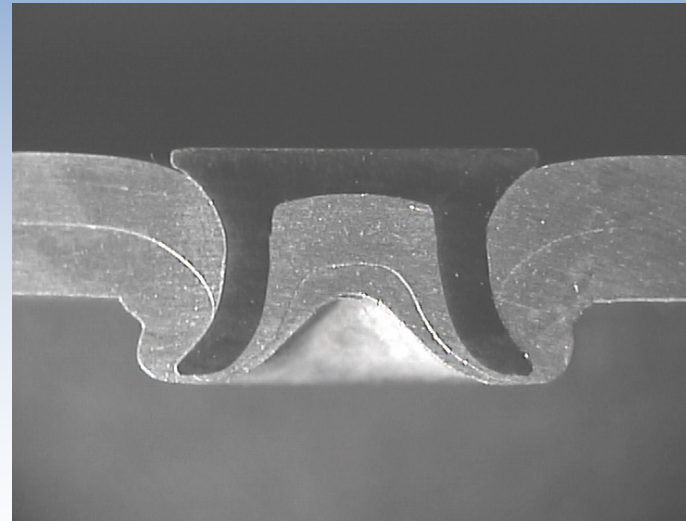


STANSNITNING

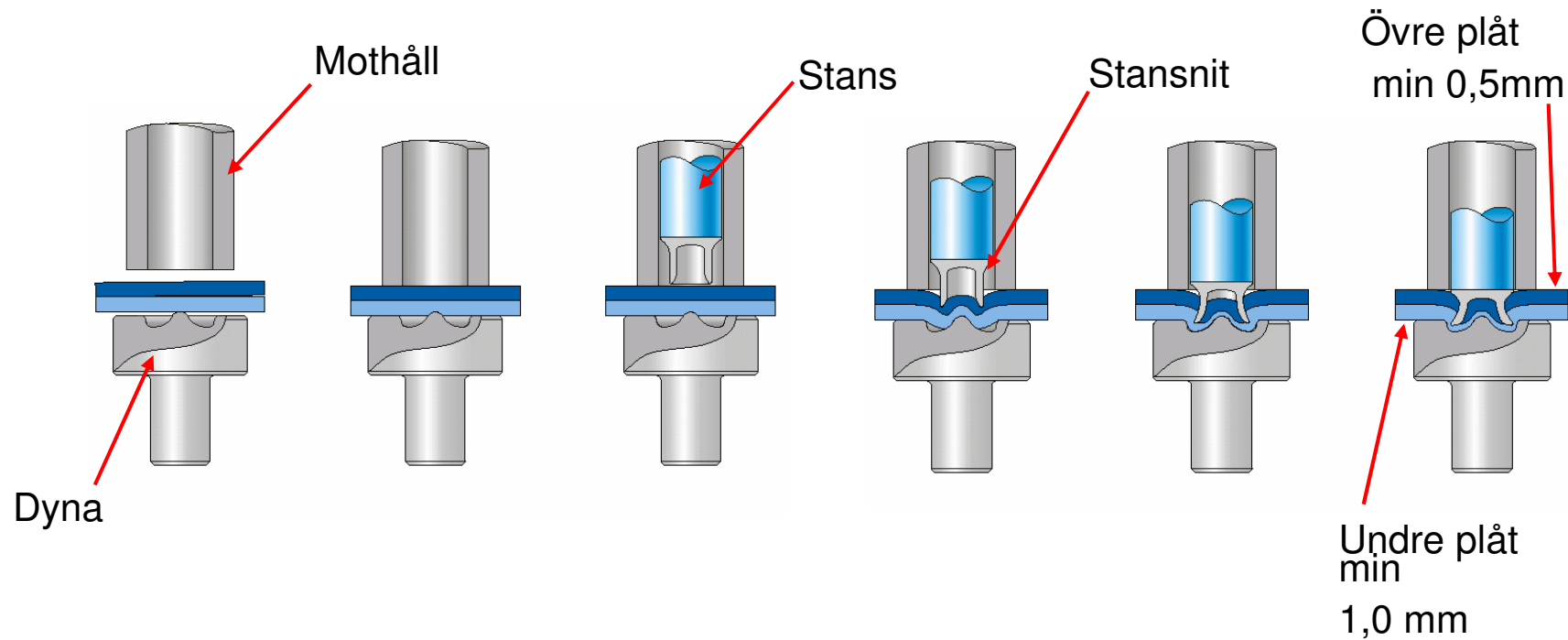


**STARKA DYNAMISKA
FÖRBAND**

Varför använda självstansande nit?

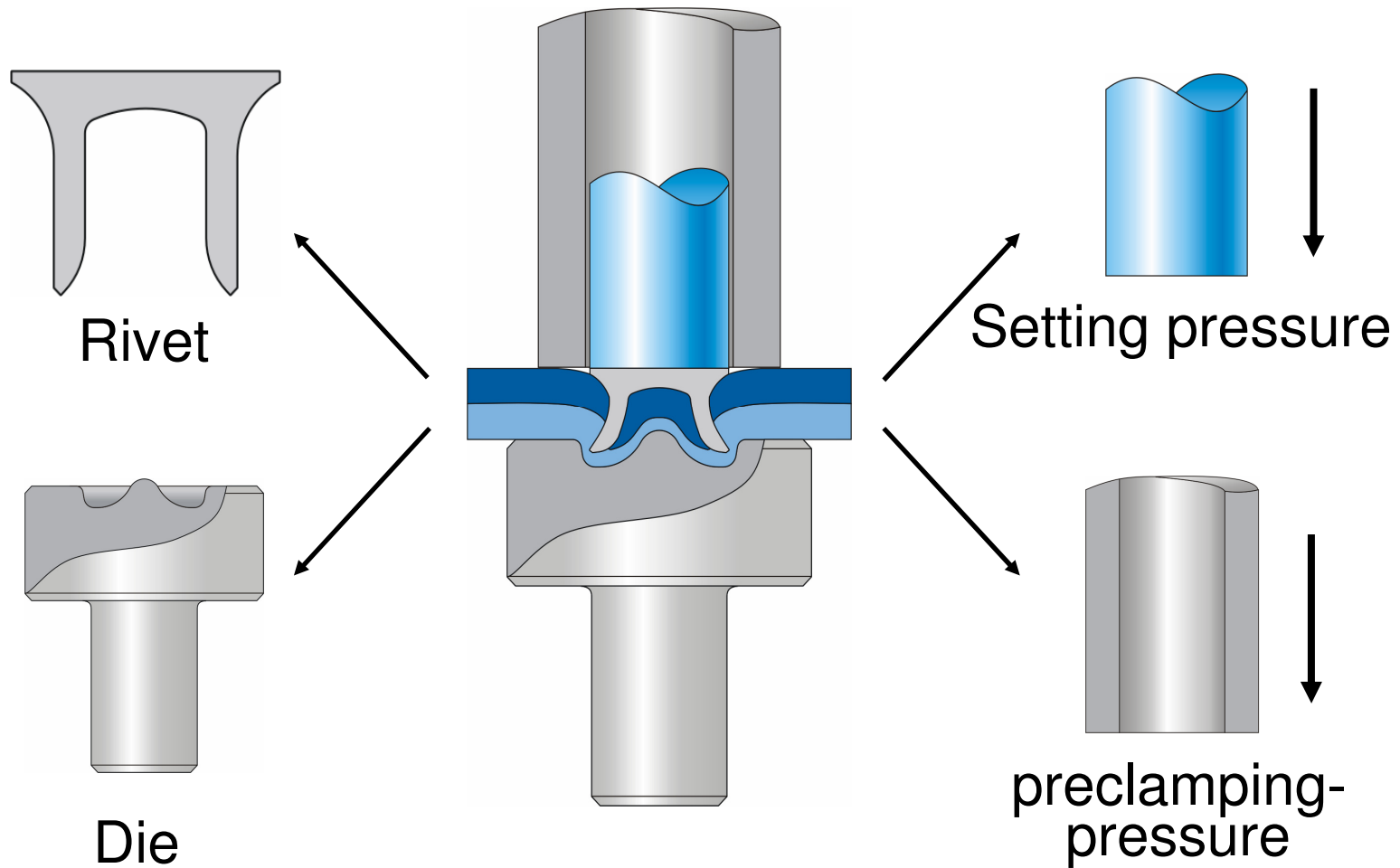
- Ingen håltagning
- Ren sammanfogningsmetod
- Dynamiskt starka nitförband
- Energiupptagare
- Dubbel styrka mot stuknitning
- 2 eller fler material kan sammanfogas
- Olika typer av fibermaterial och plaster kan nitas mot

Själv-Stansande Nitning



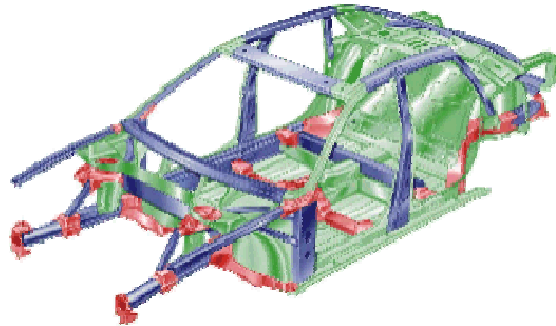
Total plåttjocklek max: 11 mm i aluminium, 8 mm i stål

Parameters of a Riveting Joint



Joining Technology Aluminium Car Body

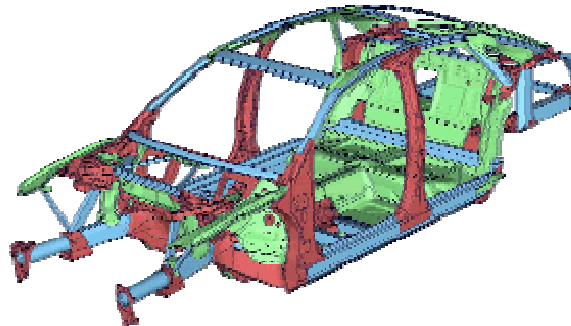
Audi A8 (D2)



Joining Technology

1100 Selfpierce rivets
70 m MIG-Welding
500 Spot-Welding
178 Clinchpoints

Audi A8 (D3)



Joining Technology

2400 Selfpierce rivets
64 m MIG-Welding
20 m Laser-Welding
5 m Hybrid-Welding

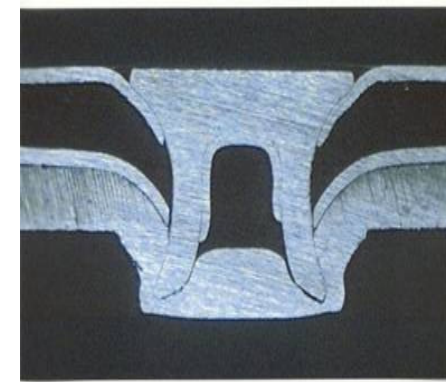
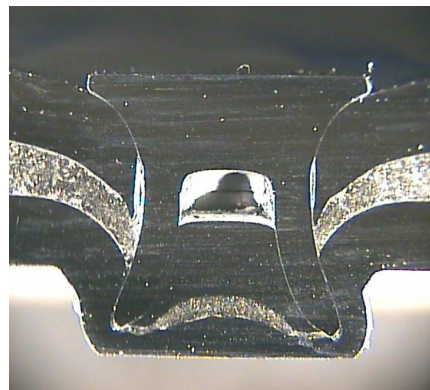
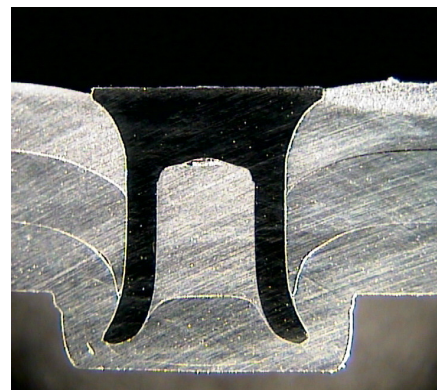
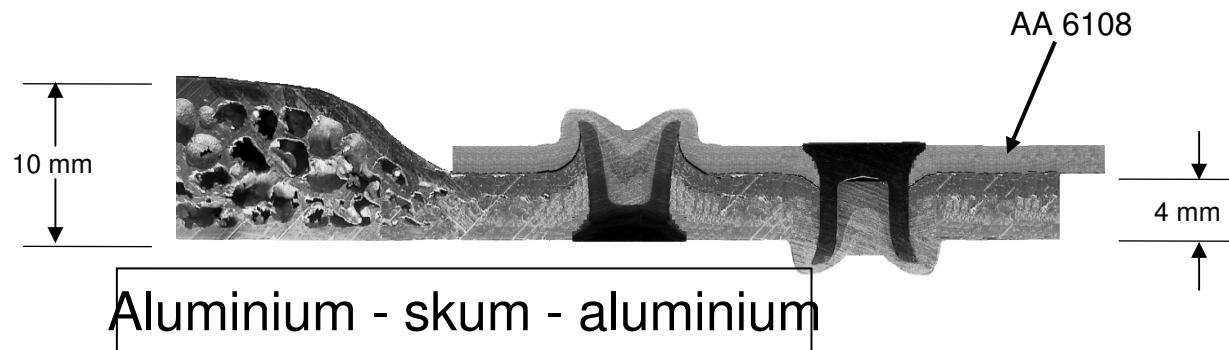
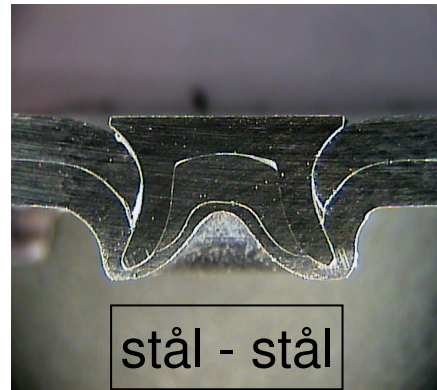
Audi A2
(W10)



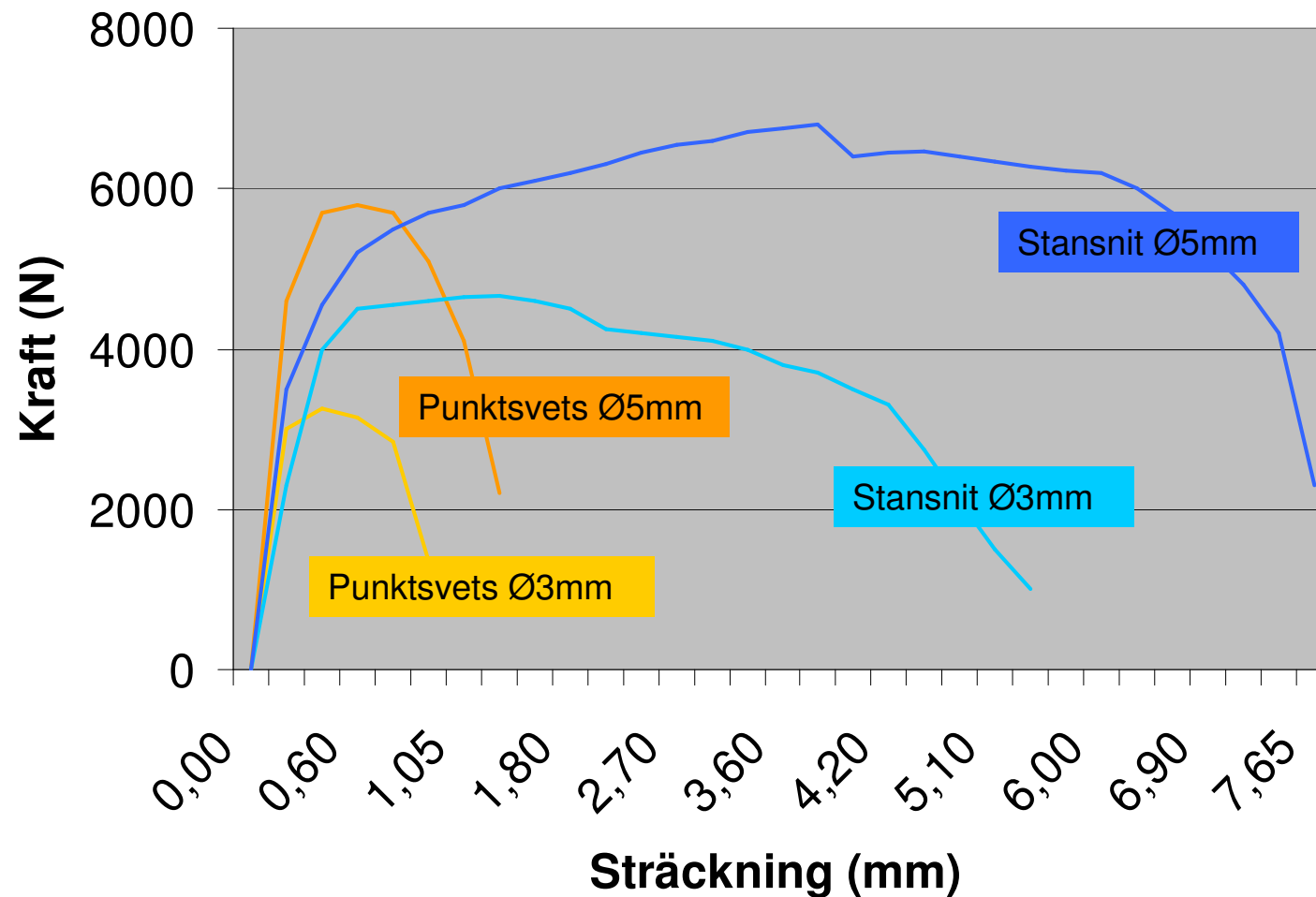
Joining Technology

1800 Selfpierce rivets
20 m MIG-Welding
30 m Laser-Welding

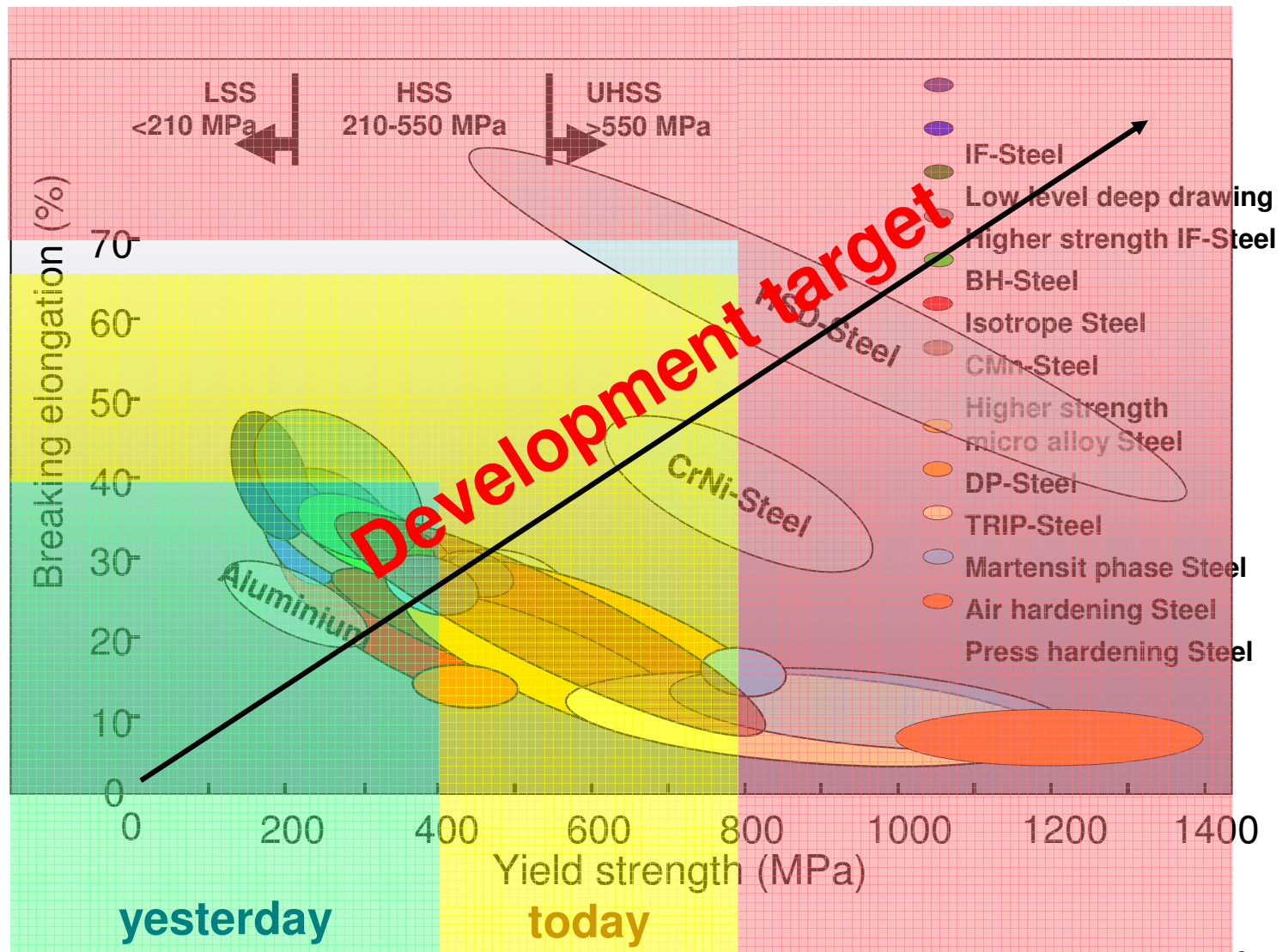
Genomskärning av monterad stansnit:



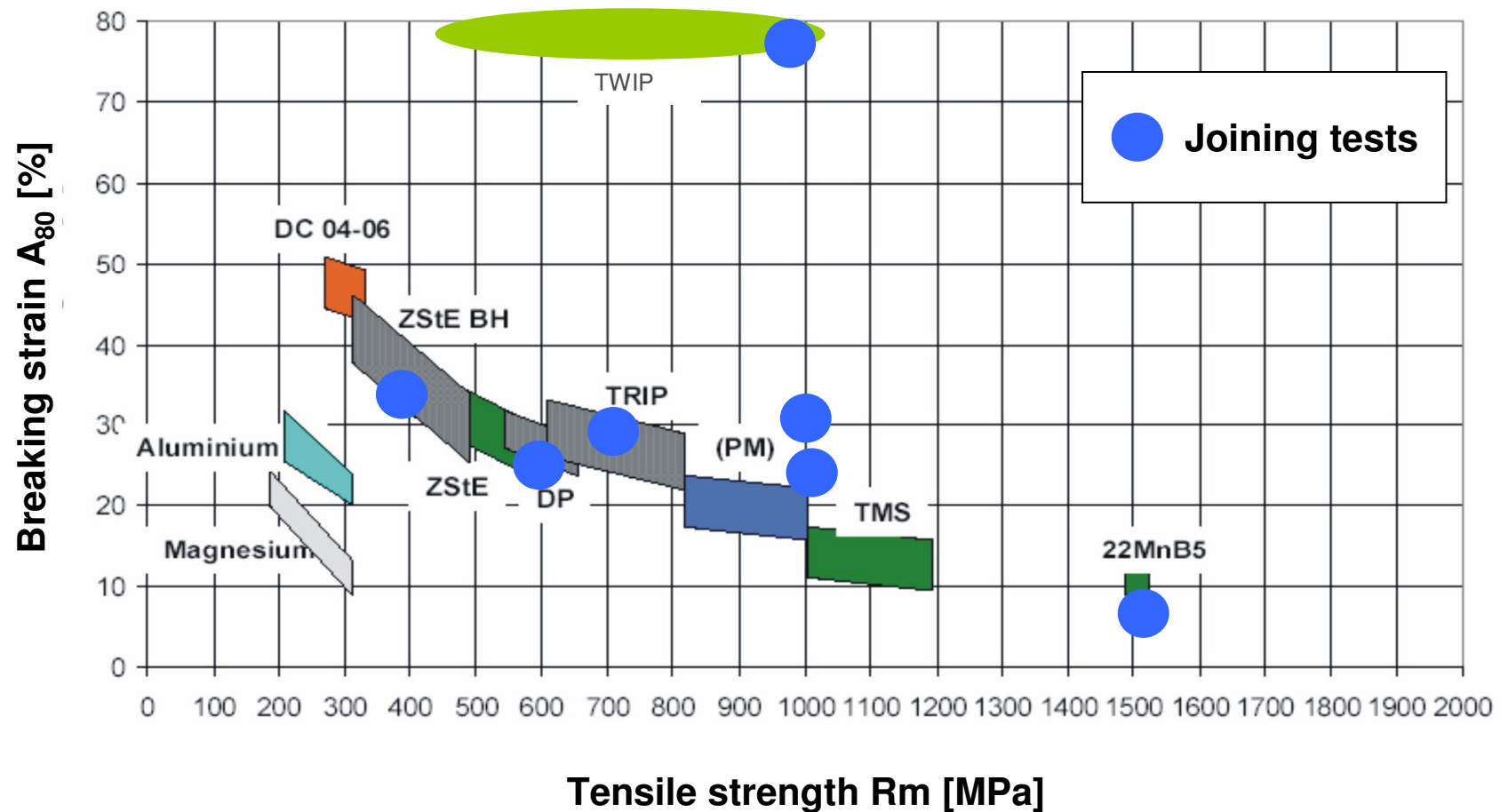
Energiupptagning Punktsvets- Stansnitning



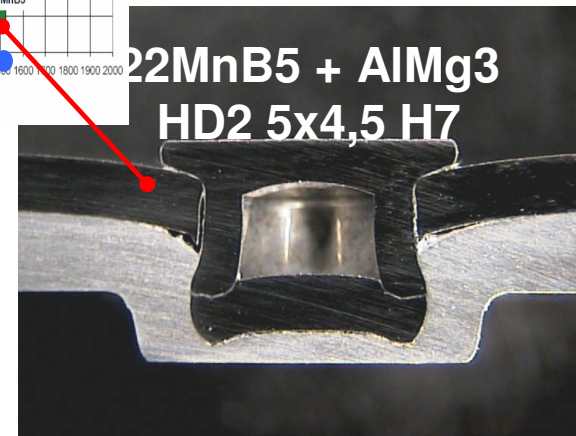
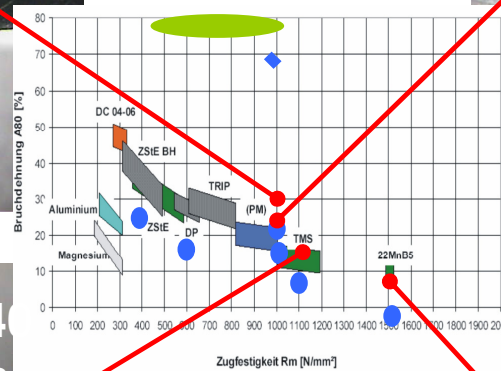
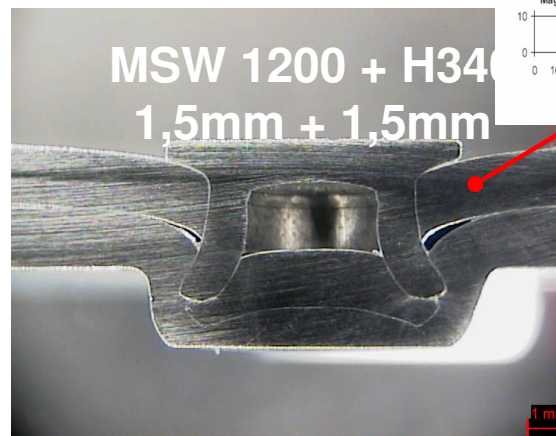
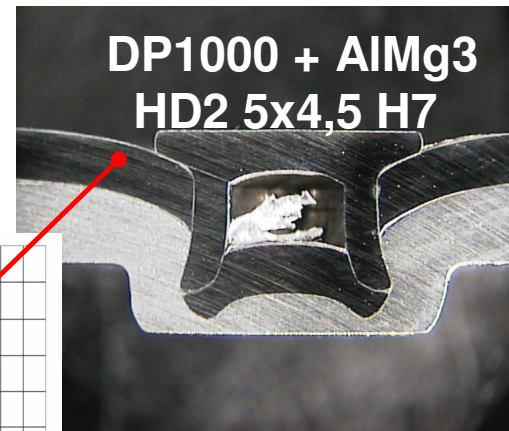
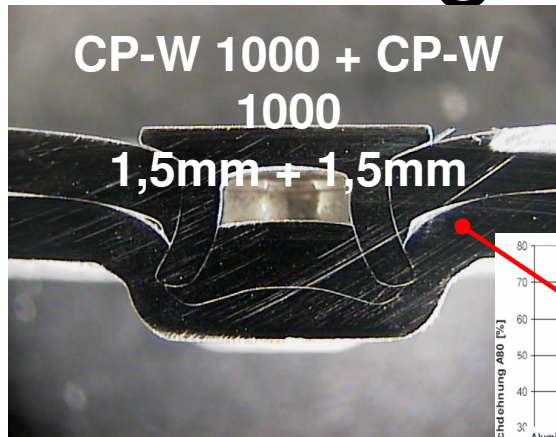
Development target self-pierce riveting of high-strength steel



Tested joints of high strength



Selected self-pierce rivet joints of high strength steel



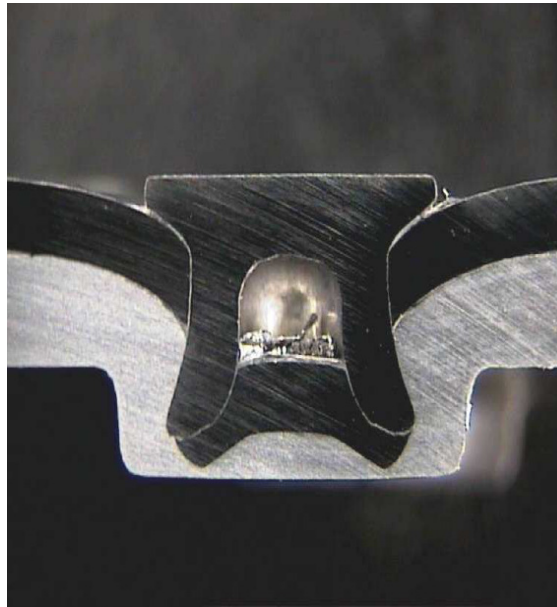
Self-pierce riveting of high strength steel – aluminium (rivet comparison)

Joint:

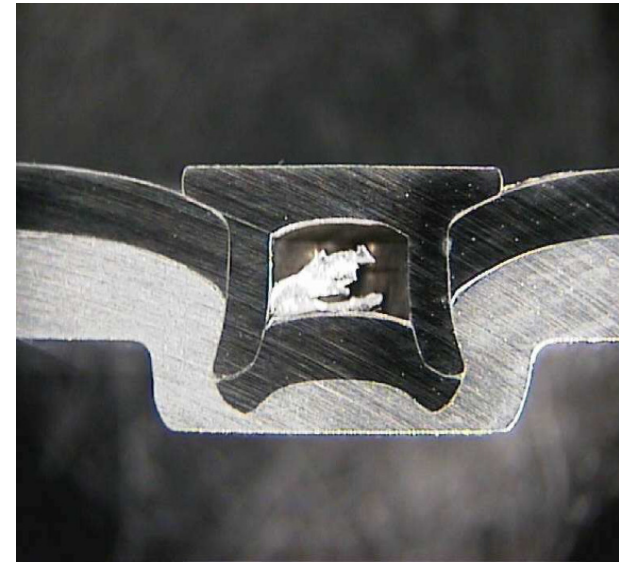
DP1000; 1,3mm + AlMg3Mn 2,0 mm



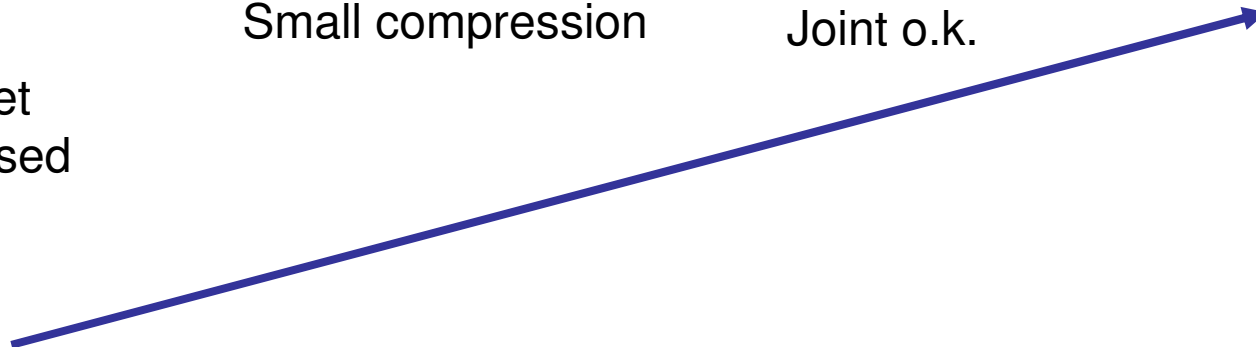
Overstrained rivet
shank (compressed



Small compression

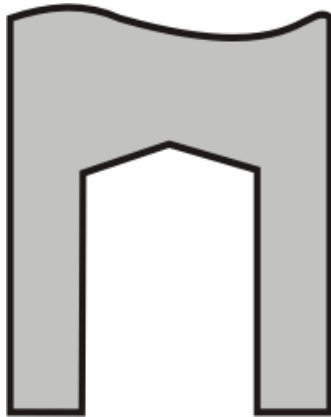


Good rivet head
connection
No rivet compression
Joint o.k.



Shank Geometries

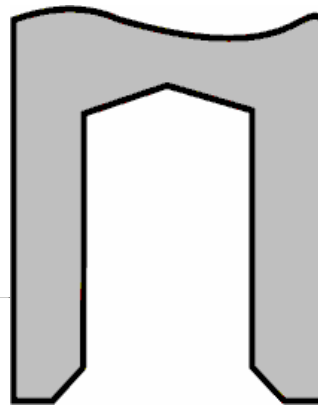
R



longest tradition

- suitable for extremely hard and / or thick material
- straight blind hole
- high rigidity in the shank area

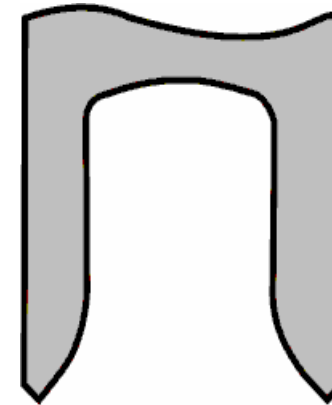
P



small 45° chamfer

- ⇒ reduced setting pressure
- ⇒ better spreading behaviour

C,J and K



- cutting edge
- blind hole is smoothed by a radius
- joining steel and aluminium
- Automotive Industry

RIVSET

Steel up to 800 MPa is joinable,
with special circumstances up to 1200 MPa,
depending on some other characteristic of
the steel and only in first layer up to a
max. thickness of 1,0 mm

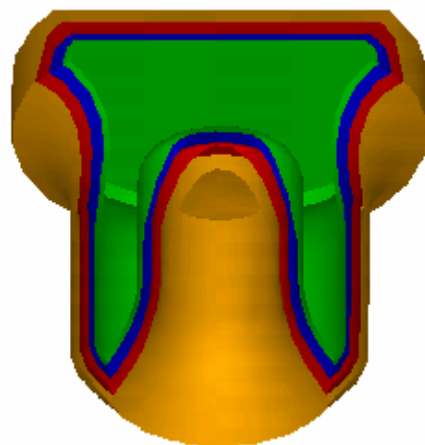
Coatings

Mechanical coating

- mechanical zinc
- ALMAC

mechanical coating: The coating applied by darting of glass balls onto the rivets in a rotational container.

Almac



- tin-aluminium
- zinc-tin-aluminium
- copper (liability layer)
- 35B2- Steel

galvanic coating

- galvanic zinc

**Duration up to
red corrosion**

mechanic zinc /
galvanic zinc

94 hrs

ALMAC
240 hrs

Process control for self pierce riveting ...

Is based on “observation of force and distance development during a riveting process.

The tolerance curve is the measurement of force distance devolution shown with every riveting cycle and monitors the process.

The control of the process is done by using 2 warning curves. The first curve “warning” and the second curve “faulty” production piece.

