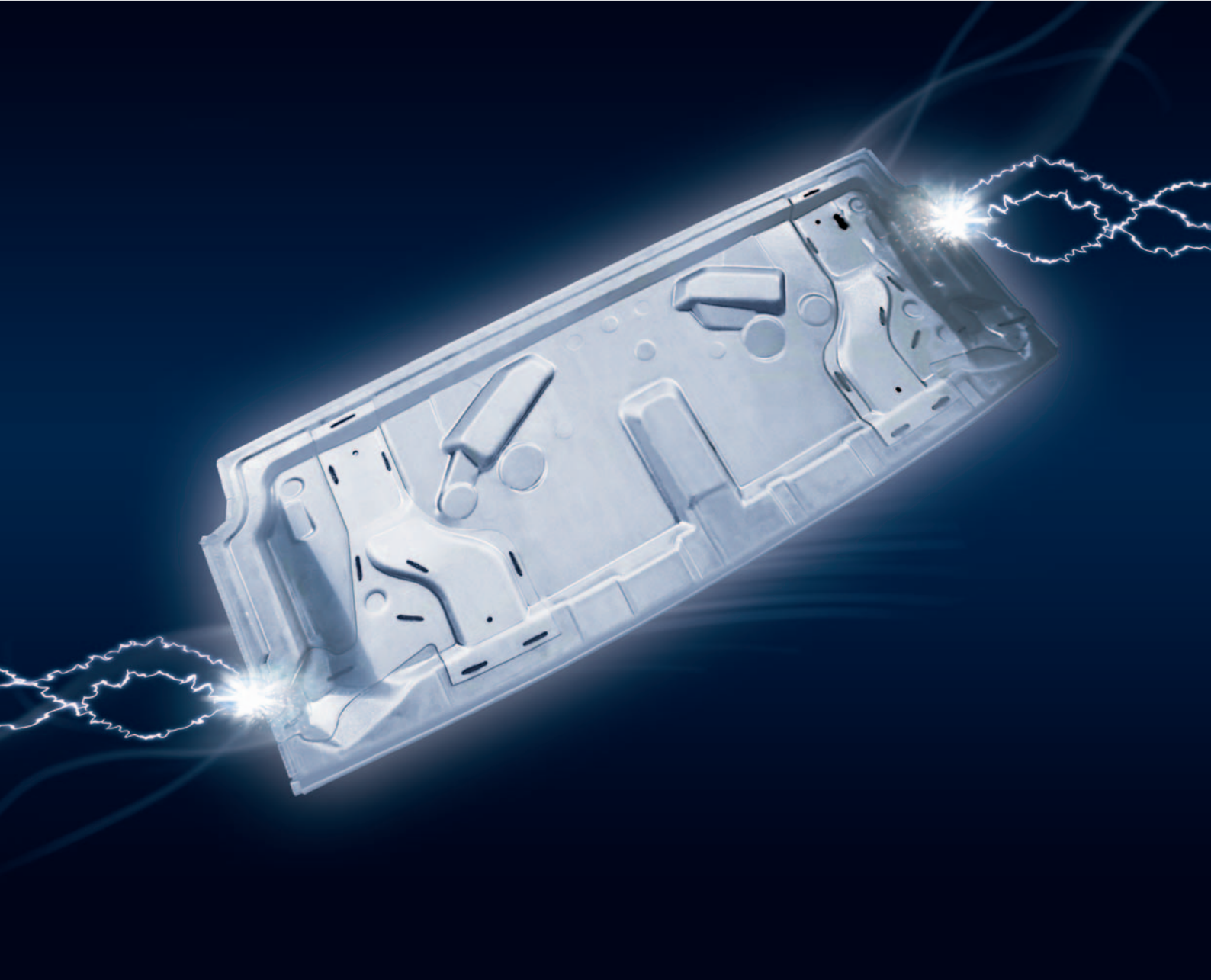


# ThyssenKrupp Patchwork Blanks.



A ThyssenKrupp  
Steel  
company

## ThyssenKrupp Tailored Blanks



ThyssenKrupp

# ThyssenKrupp Patchwork Blanks.

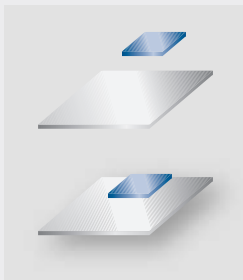
## The solution for local reinforcement.

### We give your parts added strength.

Attaching additional sheets or 'patches' to a basic blank by spot welding or remote laser welding gives the part additional strength exactly where it is needed. The basic blank and patch can then be formed together without difficulty. This eliminates the need to attach additional reinforcements to the subsequent part, reducing costs, weight and workload. Simple, but effective.

### Advantages of ThyssenKrupp Patchwork Blanks

Patchwork parts feature welded-on patches to influence material properties locally



- + Less number of parts: the patch eliminates the need to attach additional reinforcements
- + Only one forming die: no separate forming of reinforcements necessary
- + Cost reduction
- + Shorter production time: only one part is fitted
- + Extremely good fit (combination of basic blank and patch)
- + Less space required in the BIW
- + Can be combined with conventional tailored blanks

### Process

#### Production of ThyssenKrupp Patchwork Blanks: spot or laser welding



#### Spot welding

Features of spot welding:

- ▶ Sequential spot welding
- ▶ Finish welded
- ▶ Limited control of forming behavior



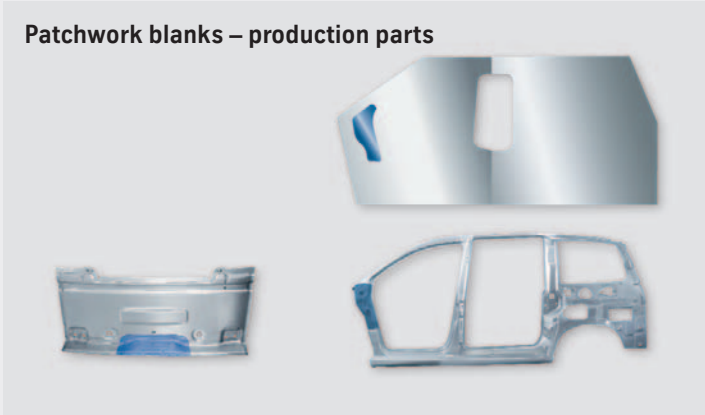
#### Laser welding

Laser welding is used in the manufacture of prototypes. Its features are:

- ▶ Fast sequential welding
- ▶ Free control of forming behavior and part properties
- ▶ Various weld shapes and directions possible

An adhesive bonding process for ThyssenKrupp Patchwork Blanks is currently under development.

## Patchwork blanks – production parts



## Applications

Patchwork blanks are mainly used in car manufacture, for example in

- ▶ Hood inner panels
- ▶ Door inner panels
- ▶ Hinges
- ▶ Gas shocks
- ▶ Locks

### Patchwork blank/patchwork



Hood inner panel  
with local patchworks



Hinge reinforcement (hood)

### Tailored blank with patchwork

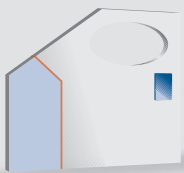


Hood inner panel  
with local patchworks

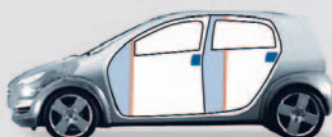


Gas shock reinforcement

### Non-linear blank with patchwork



Door inner panel with local  
patchwork as lock reinforcement



Lock reinforcement

**ThyssenKrupp Tailored Blanks GmbH**  
Kaiser-Wilhelm-Strasse 100  
47166 Duisburg, Germany  
Telephone: +49 (0)203-52 40890  
Fax: +49 (0)203-52 40532  
[www.tailored-blanks.com](http://www.tailored-blanks.com)

