

Precision Steel

# precidur<sup>®</sup> 51CrMoV4

Product information for hot-rolled precision strip made in Hohenlimburg



thyssenkrupp

Version 9/21

## Heat treatable and spring steel

Whether it's for wear parts, springs, chain links or safety components, heat treatable steels from BU Precision Steel offer the right solution for all requirements. Good fine blanking properties and formability in the annealed condition are combined with high strengths and good toughness in the quenched and tempered condition. Close analysis ranges tailored to specific purposes and precisely controlled rolling parameters guarantee consistent and outstanding processability and consistent heat treatment results.

We can supply a variant of unalloyed and alloyed heat treatable steels in accordance with DIN EN 10083 with carbon contents between 0.20 % and 0.60 %, and spring steels in accordance with DIN EN 10132-4

## precidur<sup>®</sup>

- is used in virtually all industry sectors.
- offers close thickness tolerances similar to cold-rolled strip, optimum surface finishes and consistent material properties over the entire strip length and width.
- is characterized by its symmetrical strip profiles and mill edges.
- is the sum of all the experience we have gained in more than 100 years of manufacturing and processing steel.

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## Technical features

Heat treatable steel

Material number: based on 1.7701

Material name: analogous to 52CrMoV4

Proprietary brand: precidur® 51CrMoV4

Delivery specification: based on DIN EN 10089

Application: Spring steel for auto, machinery and plant construction

### Chemical composition

| Ladle analysis mass percentages | C [%] | Si [%] | Mn [%] | P [%] | S [%] | Cr [%] | Al [%] | V [%] | Sn [%] | Mo [%] | Cu [%] |
|---------------------------------|-------|--------|--------|-------|-------|--------|--------|-------|--------|--------|--------|
| min.                            | 0.47  | 0.10   | 0.70   | -     | -     | 0.90   | 0.015  | 0.10  | -      | 0.35   | -      |
| max.                            | 0.55  | 0.40   | 1.00   | 0.025 | 0.015 | 1.20   | 0.100  | 0.30  | 0.10   | 0.65   | 0.25   |

### Mechanical properties

| Longitudinal to rolling direction | Tensile strength<br>R <sub>m</sub> [MPa] | Elongation<br>A <sub>5</sub> [%] |
|-----------------------------------|--|----------------------------------|
| Rolled condition*                 | Ø 1300                                   | min. 9                           |
| GKZ annealed                      | max. 750                                 | min. 15                          |

\*Restricted mechanical property ranges can be agreed on request.

### Possible delivery options

| Options            | Mill edge (NK)<br>Cut edge (GK) | pickled |    | unpickled | slit | trimmed | Cut to length | annealed | not annealed |
|--------------------|---------------------------------|---------|----|-----------|------|---------|---------------|----------|--------------|
|                    |                                 | ✓       | or | ✓         | ✓    | ✓       | ✓             | ✓        | ✓            |
| precidur® 51CrMoV4 | NK or GK                        | ✓       | or | ✓         | ✓    | ✓       | ✓             | ✓        | ✓            |

### General thickness tolerances

| Strip thickness [mm]     | 1.5 – 2.54 | 2.55 – 4.03 | 4.04 – 6.03 | 6.04 – 8.03 | 8.04 – 9.03 | 9.04 – 11.03 | 11.04 – 14.03 | 14.04 – 16.00 |
|--------------------------|------------|-------------|-------------|-------------|-------------|--------------|---------------|---------------|
| Standard tolerances [mm] | ± 0.04     | ± 0.04      | ± 0.05      | ± 0.055     | ± 0.06      | ± 0.07       | ± 0.08        | ± 0.10        |
| Special tolerances [mm]  | ± 0.03     | ± 0.035     | ± 0.04      | ± 0.045     | ± 0.05      | ± 0.055      | ± 0.06        | ± 0.07        |

### General delivery options

Coil inner diameter: standard 508 mm / optional 610 mm

Coil outer diameter: max. 1,890 mm

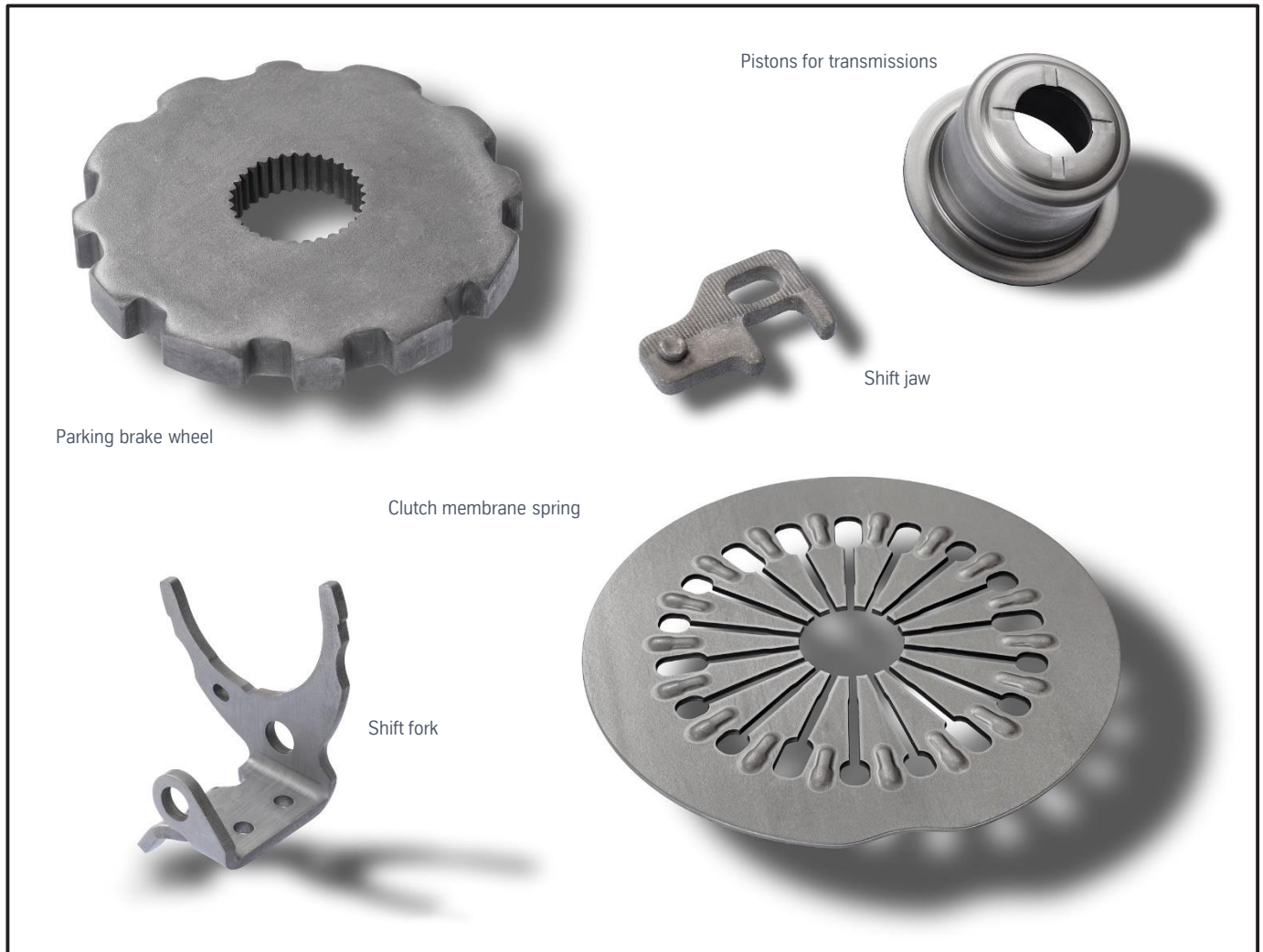
Coil weight: max. 20.5 kg/mm strip width

Strip width\*: max. 720 mm

Strip thickness\*: 1.5 – 16 mm

\* May be subjected to restrictions.

## Application examples for heat treatable and spring steel



Special mill grades feature unique thyssenkrupp properties. Other terms and conditions of supply not specified here will be based on the applicable specifications. The specifications used will be those valid on the date of publication of this product information.

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