

SIQUAL[™] 1151

LOW CARBON NON-ALLOYED STEEL

SIQUAL 1151 is a low carbon non-alloyed steel which can be carburized or carbonitrided on its surface and subsequently hardened.

SPECIFICATIONS

SIQUAL 1151 is designated as C22E according to EN 10027-1 and as W.Nr. 1.1151, and conforms to the following standard:

- EN 10083-2:2006 – Steels for quenching and tempering – Part 2: Technical delivery conditions for non-alloy steels
- EN 10132-3:2000 – Cold rolled narrow steel strip for heat treatment – Technical delivery conditions – Part 3: Steels for quenching and tempering

CHEMICAL COMPOSITION

| | C | Mn | Si | P | S | Cr | Ni | Mo |
|-----------|------|------|------|-------|-------|------|------|------|
| Min. in % | 0.17 | 0.40 | - | - | - | - | - | - |
| Max. in % | 0.24 | 0.70 | 0.40 | 0.035 | 0.035 | 0.40 | 0.40 | 0.10 |

MECHANICAL PROPERTIES

Hardness in as-rolled condition can be given as informative value.

According to EN 10083-2

| Delivery condition | HBW |
|--------------------|-----|
| Soft annealed (+A) | 156 |

According to EN 10132-3:2000 – for thicknesses 0.30–3 mm

| Delivery condition | R _{el} (R _{p0.2}) [MPa] | R _m [MPa] | A ₈₀ [%] | HV |
|-------------------------------------|--------------------------------------------|----------------------|---------------------|-----|
| Annealed (+A) + Temper rolled (+LC) | max. 400 | max. 500 | min. 22 | 155 |

DIMENSIONS

| | Hot-rolled strip | Hot-rolled sheets | Cold-rolled strip | Cold-rolled sheet | Hot-rolled quarto plates |
|-----------------------------|------------------|-------------------|-------------------|-------------------|--------------------------|
| Thickness [mm] | 3–6 | 3–6 | 0.3–3 | 0.5–3 | 8–* |
| Width [mm] | 100–1000 | 800–1000 | 30–1000 | 1000 | 1000–2500 |
| Length [mm] | - | 2000–6000 | - | 2000–6000 | up to 12000 |
| Internal coil diameter [mm] | 610 | - | 508 | - | - |

*Max. thickness shall be discussed at the time of inquiry.

TOLERANCES ON DIMENSIONS

- Hot-rolled quarto plates: EN 10029
- Hot-rolled strips/sheets: EN 10051
- Cold-rolled strips/sheets: EN 10131 or EN 10140

SURFACE CONDITION

According to EN 10163-2 or by special agreement.

DELIVERY CONDITION

| Hot-rolled strip/sheet | | Cold-rolled strip/sheet | Hot-rolled quarto plates | |
|-------------------------------|------------------------------|---------------------------------------------|-------------------------------|------------------------------|
| as-rolled (+ shot-blasted) | annealed (+ shot-blasted) | spheroidization annealed + temper rolled | as-rolled (+ shot-blasted) | annealed (+ shot-blasted) |

INSPECTION DOCUMENTS

The type of document shall be agreed upon at the time of enquiry and order. A test certificate according to EN 10204/3.1 is issued mandatorily.

The information and data in this product data sheet are intended for informative purpose only and may be revised at any time without notice. Presented typical properties of the materials are described only to help readers make their own evaluations and decisions. They are not guaranteed.