

# HEAT-RESISTING STEELS

## Available Product Variants

Plates

## Product Description

### Heat treatment shops:

Boxes and pots, muffles, retorts, crucibles and pans for all kinds of heat treatment processes. Heating cartridges and plates.

### Furnace and boiler construction:

Grates and grate segments, fittings, conveyor components, supporting and walking beams, rams, rails, rollers, doors, gates and traps, housings, recuperators, fans, superheater suspensions, tube clamps, soot blower pipes.

### Glass, porcelain, enamel, cement and ceramic industries:

Burner tips, rings, segments and components for rotary and lepol kilns.

### Mechanical engineering:

Grid bars, valves and spindles, stirrer arms and teeth, sheath tubes for thermocouples, fittings, drums, bolts, nuts, rivets.

### Petroleum industry:

Tubes und tubular components.

## Process Melting

VID

## Applications

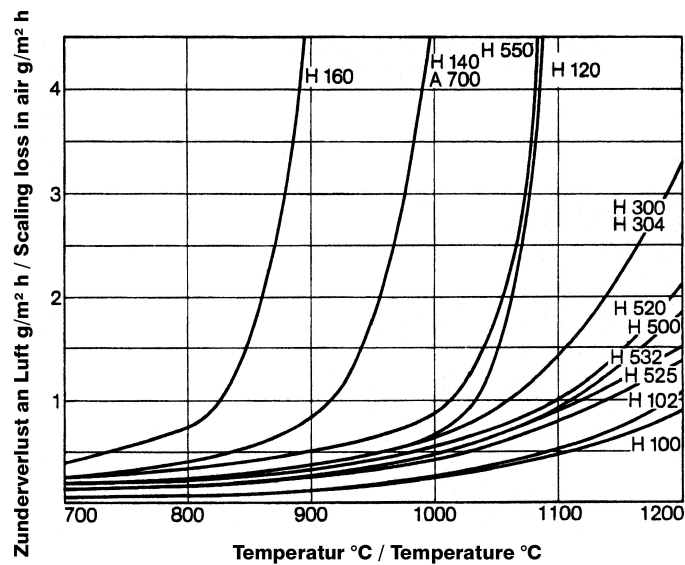
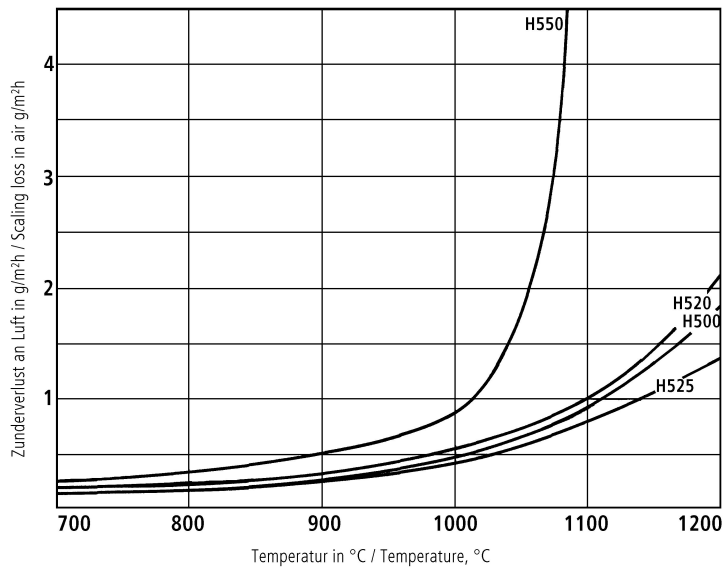
- > Components for Chemical plants (incl. LNG, FGD, Urea, LDPE, etc.)
- > Mechanical Engineering
- > Other Oil and Gas + CPI components
- > Rolls
- > Tubular Products, Flanges, Fittings

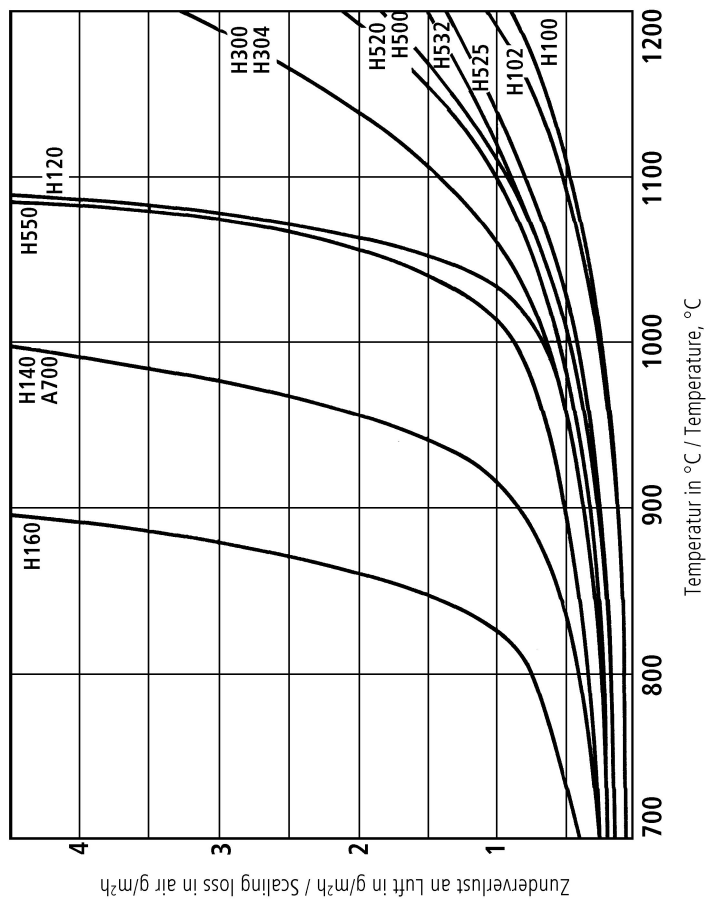
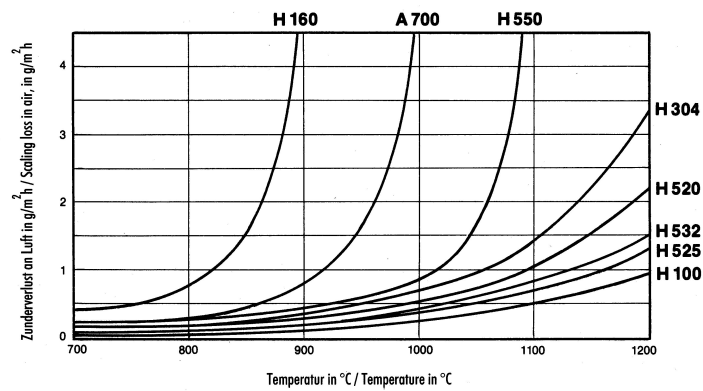
## Technical data

| Material designation |      | Standards   |     |
|----------------------|------|-------------|-----|
| 1.4841               | SEL  | ~310S24     | BS  |
| X15CrNiSi25-20       | EN   | STN: 17 255 | STN |
| S31400               | UNS  |             |     |
| 314                  | AISI |             |     |
| 310S31               | bs   |             |     |

## Chemical composition (wt. %)

| C    | Si  | Mn  | Cr   | Ni   |
|------|-----|-----|------|------|
| 0.08 | 1.7 | 1.2 | 24.8 | 19.8 |





## Physical Properties

|                             |     |                                      |
|-----------------------------|-----|--------------------------------------|
| Density                     | 7.9 | [kg/dm <sup>3</sup> ]                |
| Thermal conductivity        | 15  | [W/(m.K)]                            |
| Specific heat               | 500 | [kJ/kg K]                            |
| Spec. electrical resistance | 0.9 | [Ohm.mm <sup>2</sup> /m]             |
| Modulus of elasticity       | 198 | [10 <sup>3</sup> N/mm <sup>2</sup> ] |

## Thermal Expansions between 20°C | 68°F and ...

| Temperature (°C)                             | 200  | 400 | 600  | 800 | 1,000 |
|--|------|-----|------|-----|-------|
| Thermal expansion (10 <sup>-6</sup> m/(m.K)) | 15.5 | 17  | 17.5 | 18  | 19    |

If other available product variants are listed in addition to long products, please note that these may differ in terms of melting process, technical data, delivery and surface condition as well as available product dimensions. For mandatory technical specifications, other requirements and dimensions, please contact our regional voestalpine BÖHLER sales companies. The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.

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ONE STEP AHEAD.