

## 630/S

### Comparable specifications

ASME SFA A 5.9: ER630  
EN ISO 14343-B: 630  
Werkstoff Nr.: 1.4542

### Description and applications\*

\* Illustrative, not-exhaustive list

The nominal composition of this classification is designed primarily for welding ASTM A564 Type 630 and some other precipitation-hardening stainless steels. The composition is modified to prevent the formation of ferrite networks in the martensitic microstructure which have a deleterious effect on mechanical properties. Dependent on the application and weld size, the weld metal may be used as-welded; welded and precipitation hardened; or welded, solution treated, and precipitation hardened.

This alloy provides an outstanding combination of high strength and hardness, good corrosion resistance and excellent mechanical properties on the weld deposits. Mechanical properties are greatly influenced by the heat treatment.

Most common applications of this alloy includes:

- chemical processing equipment;
- hydraulic equipment components;
- impellers;
- pump shafts;
- aircraft components;
- continuous extrusion equipment;
- pressure vessels;
- etc.

### Weldable base materials\*

\* Illustrative, not-exhaustive list

ASTM A564 Type 630 and other martensitic PH stainless steels such as 15-5.

### All-weld metal mech. properties\*

\* For reference only values

Tensile strength (Rm):  $\geq 930 \text{ N/mm}^2$     Yield Strength (Rp<sub>0.2</sub>):  $\geq 725 \text{ N/mm}^2$   
Elongation:  $\geq 5\%$

### Chemical composition\*

\* For reference only values

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	Nb
max	0.25	max	max	max	4.50	16.00	max	3.25	0.15
0.05	0.75	0.75	0.030	0.030	5.00	16.75	0.75	4.00	0.30

### Standard packaging data\*

Welding process	Product type	Ø mm (inches)	Packing type	Weight kg (lbs)	Length mm (inches)
GMAW **	filler wire	0.80 - 1.20 (0.030 - 0.047)	spools BS300 / D300	15 (33)	n.a.
GTAW **	filler rod	1.60 - 4.00 (1/16 - 5/32)	cardboard boxes / tubes	5 (11)	1000 (39.4)
SAW **	filler wire	1.60 - 4.00 (1/16 - 5/32)	basket rims B450	25 (55)	n.a.

\* Other sizes and packing types are available upon request

\*\* GMAW: gas metal arc welding; GTAW: gas tungsten arc welding; SAW: submerged arc welding

### Marking

Each filler rod for GTAW welding is durably marked with an identification traceable to the unique product type. Welding filler materials wound on spools or in coils are durably marked on the coil or spool with an identification traceable to the unique product type. The outside of each unit package is suitably labelled with at minimum the following data: grade, diameter, heat, lot no., classifications.

Customized labels are available upon request.

### Lot classification

All our productions fulfil the **Class S3** requirements acc. to EN ISO 14344.