

## ER439

### Comparable specifications

ASME SFA A 5.9: ER439      EN ISO 14343-B: 439  
Werkstoff Nr.: 1.4502

### Description and applications\*

\* Illustrative, not-exhaustive list

Ferritic stainless steel filler metal with 18% of Cr and stabilized with Ti, it provides improved performances over ER409 in similar applications.

Excellent resistance to oxidation in air and in sulphur containing combustion gases, resistance to stress corrosion cracking. Its high silicon content improves weld metal flow characteristics (great deposition rates, minimal spatter and slag, high travel speed) over conventional ferritic welding consumables.

It offers as well high thermal conductivity and low thermal expansion.

Mainly used for applications where thin stock is fabricated into exhaust system components in the automotive industry (e.g. manifolds, catalytic converters, diesel exhaust systems).

It can even be used for non-automotive applications, such as:

- joining matching or dissimilar base metals;
- overlay welding where oxidation resistance is required;
- heat exchanger tubing, kitchen equipment.

### Weldable base materials\*

\* Illustrative, not-exhaustive list

Type 409, 409Nb, 430, 439, 439Ti and other ferritic stainless steels or carbon and alloyed steels.

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

\* For reference only values

Tensile strength (Rm):  $\geq 410$  N/mm<sup>2</sup>      Yield Strength (Rp<sub>0.2</sub>):  $\geq 220$  N/mm<sup>2</sup>  
Elongation:  $\geq 15\%$

### Chemical composition\*

\* For reference only values

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	Ti
max	max	max	max	max	max	17.00	max	max	10xC
0.04	0.80	0.80	0.03	0.03	0.60	19.00	0.50	0.75	1.10

### 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.