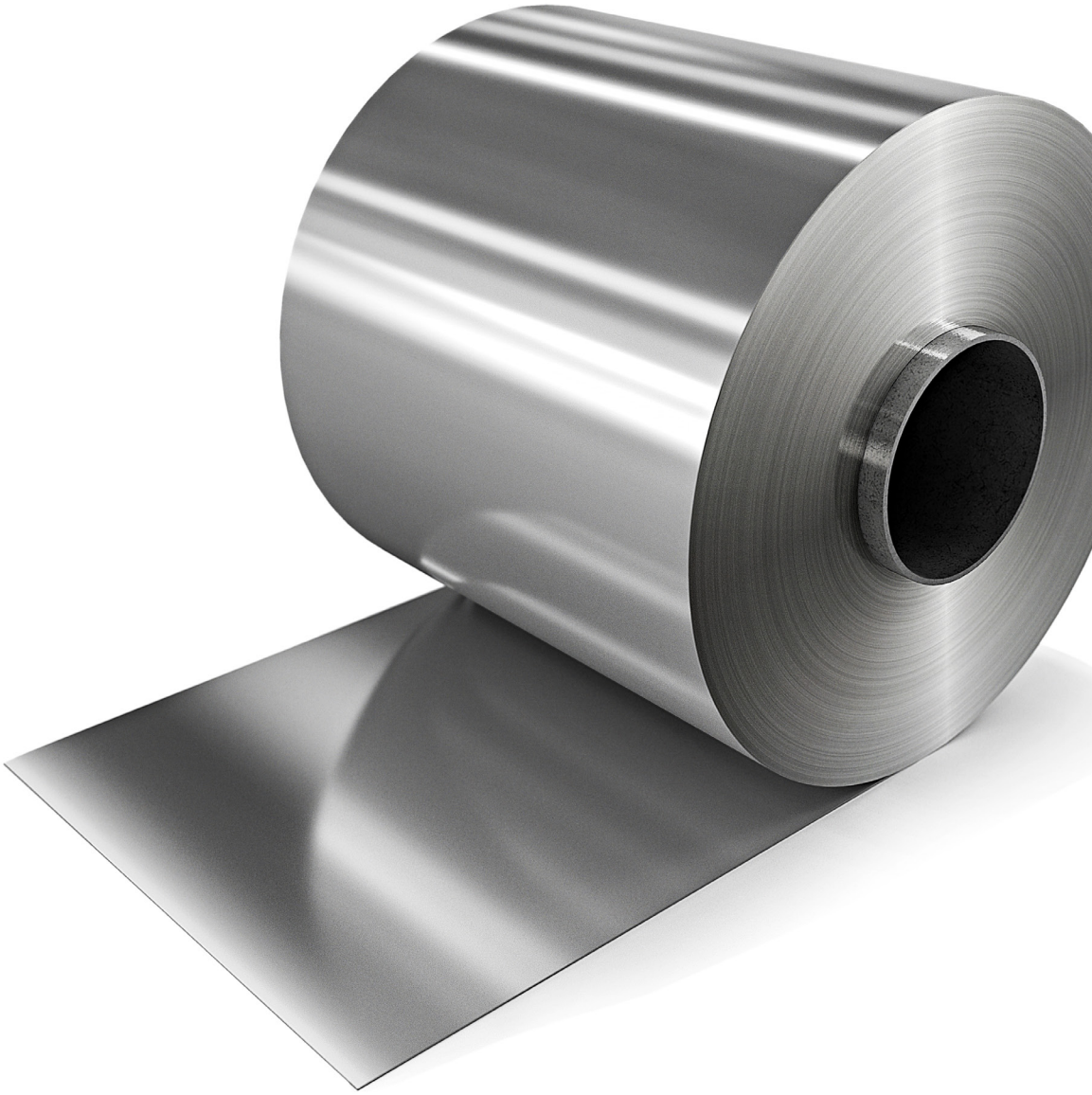
GRÄNGES

ALLOY EN AW 4017

100% BASED ON REMELTED METAL

Properties and formability equivalent to 3XXX-alloys. Alloy registered in EN 573-3.



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MECHANICAL PROPERTIES

Gauge range 0.2 – 3.0 mm

Temper	$Rp_{0.2}$ [MPa]	Rm [MPa]	A_{50mm} [%]	Hardness [HV]
O	35-	100-145	10-	(30-45)
H12	90-	120-160	4-	(35-50)
H14	120-	150-190	2-	(45-60)
H16	140-	180-220	1-	(55-70)
H18	170-	200-	1-	(65-)
H26	120-	180-220	3-	(60-75)

CHEMICAL COMPOSITION

Weight %

Si	Fe	Cu	Mn	Mg	Zn	Other each	Total	Al
0.6-1.6	<0.7	0.10-0.50	0.6-1.2	0.10-0.50	<0.2	<0.05	<0.15	Rem

TECHNICAL DATA

Density at 20°C	2.72 kg/dm^3
Melting range	560-640°C
Thermal capacity	900 J/kg x °C
Thermal conductivity	200 W/m x °C
Thermal expansivity	23 x 10^{-6}/ °C^{-1}
Resistivity at 20°C	32 nΩm
Modulus of elasticity	70 GPa
Modulus of rigidity	27 GPa

WORKABILITY

This alloy works very well for bending, rollforming and similar types of forming. Formability is equivalent to 3XXX alloys.

BENDING RADIUS [1]

Temper	90°	180°
O	0t	0t
H12	0t	0t
H14	0.5t	1.0t
H16	1.0t	2.0t

1. For information only.

HEAT TREATMENT

Soft annealing temperature for obtaining the lowest strength is 300-360°C with a holding time of 0.5H on temperature.

JOINING

The material can in normal conditions be melted by MIG, TIG, Laser and High frequency methods.

Typical welding conditions: Recomended welding wire is 4043 (AlSi5), but other wires can also be used (Al99.5 Ti, AlMn1). Current to be used depends on the material, but 110 – 150 A is normal with a travel speed of 30 – 75 cm/min.

This alloy is also suitable for other types of joining.

SURFACE TREATMENT

All types of lacquering could be used on this material. It can also be anodised in order to strengthen the corrosion resistance. When anodised the surface will be a little darker than 3XXX alloys under identical conditions.

We do not recommend decorative anodising.

CORROSION RESISTANCE

According to field tests EN AW 4017 shows similar results as 3XXX alloys.

Also in simulated laboratory tests 4017 performs similarly to AlMn-alloys.

For normal applications this alloy is suitable either in mill finish or in painted condition.

When aluminium is exposed outdoors it always develops a thin layer of oxidation which acts as a natural protection.

If corrosion occurs all non-heat treatable aluminium alloys exhibit small pits. The depth of the deepest corrosion pits seldom exceeds 100µm and does not affect the strength of the material.

As with all aluminium alloys, direct contact with a more noble material should be avoided and the surface should be kept clean and free from damage, in order to minimise the risk of corrosion.

FROM REMELTED RAW MATERIAL

TO SLAB

TO ROLLED STRIP

ALUMINIUM, A RESOURCE IN THE **ECOCYCLE.**

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