Technical Datasheet

EN AW-1050A / Al99.5 / 3.0255
Deep Drawing Quality [DDQ]

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BRIEF DESCRIPTION

Alloy 1050A O – DDQ is developed for excellent deep drawing results. Deep drawing and/or stamping is commonly used in mass production of automotive parts as well as in small series production of packaging for the medical or household industry where narrow and deep shapes are required. The mechanical properties are highly consistent in order to allow for high reproducibility and reduction of scrap. This is achieved by extra fine grain and high elongation resulting in minimum number of deep drawing steps.

CHEMICAL COMPOSITION (weight %)

Si	Fe	Cu	Mn	Mg	Cr+Ni	Zn	Ti
max. 0.25	max. 0.4	max. 0.05	max. 0.05	max. 0.05	max. ----	max. 0.07	max 0.05

PHYSICAL PROPERTIES (nominal values)

Density	2.705 g/cm^3
Elastic Modulus	73000 MPa
Lin. thermal expansion coefficient (20°-100°C)	23.8 10^{-6} K^{-1}
Thermal conductivity	205 W/mK
Electrical conductivity (20°C)	34 - 36 MS/m

PROCESSING METHODS

Weldability

• TIG/MIG	excellent
Filler alloy	AA 1050 AA 4043

Anodizing

• technical	good
• decorative	good

Machinability fair

Anisotropy low
According to EN1669: 2 – 4%

Corrosion Behaviour

• excellent in inland, industrial & marine atmosphere

MECHANICAL STRENGTH

Min. tensile properties (EN Standard 485-2)

Thickness (over ... to)	Rm [MPa] Min-Max	Rp0.2 [MPa] Min-Max	A50 [%] Min	Brinell hardness [HBW]
Tempers 0 / H111				
0.5 - 1.5 mm	65-95	20	22	20
Tempers 0 / H111				
1.5 - 3.0 mm	65-95	20	26	20
Tempers 0 / H111				
3.0 - 5.0 mm	65-95	20	29	20

AVAILABILITY

1050A – DDQ coils and sheets are available in tempers O:

Thickness	Max. width
1.0 - 5.0 mm	1600 mm