

Lead-Free Aluminum Materials

New Materials That Eliminate Additional Effort and Risk

The European Commission continues to advance the protection of people, the environment, and natural resources from lead emissions. Regulatory requirements have been tightened continuously over recent years. There is broad consensus that lead is a hazardous heavy metal, and eliminating lead from aluminum contributes to improved environmental protection.

Not Prohibited, but Classified as Hazardous

The amendments introduced through Delegated Regulation (EU) 2024/197 are clear: lead is classified as environmentally hazardous. In addition, lead was classified in 2018 as a reproductive toxicant and as a Substance of Very High Concern (SVHC) under the REACH Regulation. Aluminum alloys containing more than 0.25% lead remain permitted, but they are subject to increasing regulatory attention and handling requirements.

Progress Through Lead-Free Aluminum

The alloy EN AW-6026 (LF) is now available as a suitable alternative. This lead-free solution is complemented by EN AW-2033, making it possible to replace traditional lead-containing alloys with lead-free materials without significant process changes.

Lead-Free Aluminum

The significantly increased handling requirements and associated costs for aluminum alloys containing more than 0.25% lead are making environmentally friendly alternatives increasingly attractive to both manufacturers and customers. A wide range of lead-free aluminum materials is available directly from stock at tk accelis Materials. We are happy to advise and support you on your path toward lead-free production.

Comparison of Aluminum Alloy Properties

	Lead content more than 0.25%			lead-free	lead-free
	EN AW-2007	EN AW-2011	EN AW-6012	EN AW-6026 (LF)	EN AW-2033
Machinability	*****	*****	****	****	*****
Protective Anodizing	*	*	****	****	***
Decorative Anodizing	*	*	***	****	***
Weather Corrosion Resistance	*	**	****	****	**
Seawater Corrosion Resistance	*	*	***	***	*
TIG/MIG Welding	*	*	*	****	*
Brazing/Soldering	*	*	*	***	*

We are happy to advise and support you on your path toward lead-free production.

tk accelis Materials GmbH
thyssenkrupp Allee 1
45143 Essen, Germany
info.materialsde@tkaccelis.com
tkaccelis.com

