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Press Release

Aperam Innovation Lab introduces Grade 316A: The alternative to 316L combining performance and cost efficiency

Aperam, a global leader in stainless, electrical, and specialty steel, as well as recycling and renewables, announces the launch of grade 316A, a newly certified and patented austenitic stainless steel developed to serve as a direct, cost-optimised alternative to 316L.

Engineered by the Aperam Innovation Lab, 316A (1.4682) offers equivalent corrosion resistance and mechanical performance to 316L (1.4404), with a significantly lower alloy surcharge – up to 25% less - thanks to a major reduction in molybdenum content. This breakthrough addresses a long-standing challenge: maintaining high corrosion performance while reducing dependence on expensive alloying elements.

"Like the performance leap of ferritic grades or the discovery of super duplexes, 316A represents a step change in stainless steel and material innovation," notes **Frederico Ayres Lima**, CEO Stainless Europe and Services & Solutions Europe. *"With 316A, Aperam redefines the cost baseline for corrosion-resistant stainless applications. It sets a new reference in austenitic development — practical, efficient and immediately available."*

316A: The Alternative to 316L

316A was specifically developed to maintain the corrosion performance of 316L while significantly lowering the molybdenum content — reduced by more than 75% through a rebalanced composition including silicon.

The result is a fully certified material that matches 316L in usability and corrosion reliability, while offering up to 25% lower alloy surcharge. (Note: the full price is composed of the base price and the alloy surcharge).

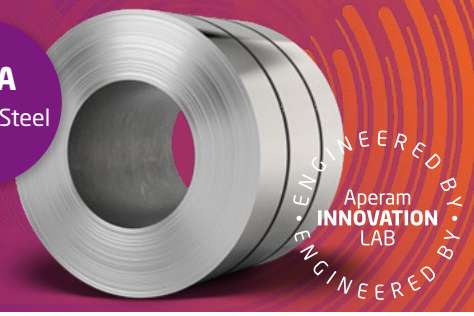
A Plug-and-Play Solution

316A is designed for direct substitution in processes where 316L is used. It does not require tooling modifications,or additional capital expenditure. Even in complex forming operations, including deep drawing, existing production parameters can be maintained — avoiding downtime and hidden costs.

316A is available in a broad dimensional range: from 0.06 mm to 13 mm in thickness and up to 2,000 mm in width. It is offered in all standard and polished surface finishes, according to EN 10088-2.

In addition, produced with high recycled content, 316A also contributes to EU taxonomy alignment and offers an effective solution for manufacturers addressing Scope 3 decarbonisation goals — without the need to redesign their applications.

316A
Stainless Steel



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Reliable Performance for Demanding Applications

Validated through corrosion and mechanical testing, 316A provides a robust alternative to 316L across a wide range of demanding environments, including:

- HVAC: pumps, brazed heat exchangers, and ventilation units,
- Food and cosmetics processing equipment,
- Architectural and structural elements, chimney flues,
- Transport: tanks, trailers, and mobility systems,
- Water treatment and storage,
- Heat exchangers, pipes, pressure vessels in CCUS,
- Heat exchangers and bipolar plates in electrolysers.

"At Aperam, we've been developing innovative solutions for demanding applications for several decades," says **Bertrand Petit**, 316A Research Project Leader. *"Time and again, we've created materials that have been game-changers for our customers and partners. Today, this is happening again with 316A. I'm confident in saying that this alloy will completely change the market, because it's a grade with the same corrosion resistance as 316L but with a 25% lower alloying cost. 316A will change the landscape of the stainless steel market."*

Aperam Innovation Lab – From Alloy design to Industrial Deployment

316A is the result of applied innovation from the Aperam Innovation Lab, where over 150 specialists across three sites conduct real-scale validation of new materials. The Lab integrates numerical simulation, mechanical, welding and corrosion testing and industrial trials to ensure rapid, reliable deployment of new alloys.

"316A was born out of the idea of giving our customers the option to access the benefits of 316L without the cost constraints," explains **Reiner Steins**, Chief Innovation and R&D Officer at Aperam. *"It represents a step change in material development for stainless steel."*

About Aperam

Aperam is a global player in stainless, electrical and specialty steel and recycling, with customers in over 40 countries. Starting from 1 January 2022, the business is organized in four primary reportable segments: Stainless & Electrical Steel, Services & Solutions, Alloys & Specialties and Recycling & Renewables. Aperam is fully committed to be the leading value creator in the circular economy of infinite, world-changing materials.

Aperam has a flat Stainless and Electrical steel capacity of 2.5 million tonnes in Brazil and Europe and is a leader in Alloys & high value specialty products with presence in France, China, India and the United States. In addition to its industrial network, spread over sixteen production facilities in Brazil, Belgium, France, the United States, India & China, Aperam has a highly integrated distribution, processing and services network and a unique capability to produce low carbon footprint stainless and special steels from biomass, stainless steel scrap and high performance alloys scrap. With BioEnergia and its unique capability to produce charcoal made from its own FSC®-certified forestry and with ELG, a global leader in collecting, trading, processing and recycling of stainless steel scrap and high performance alloys, Aperam's places sustainability at the heart of its business, helping customers worldwide to excel in the circular economy.

In 2024, Aperam had sales of EUR 6,255 million and shipments of 2.29 million tonnes.

For further information, please refer to our website at www.aperam.com.

Contact

Investor Relations | Roberta de Aguiar Faria | ir@aperam.com
Communication | Ana Escobedo Conover | ana.escobedo@aperam.com