



Automotive decorative surfaces

For elegant interior and exterior car design

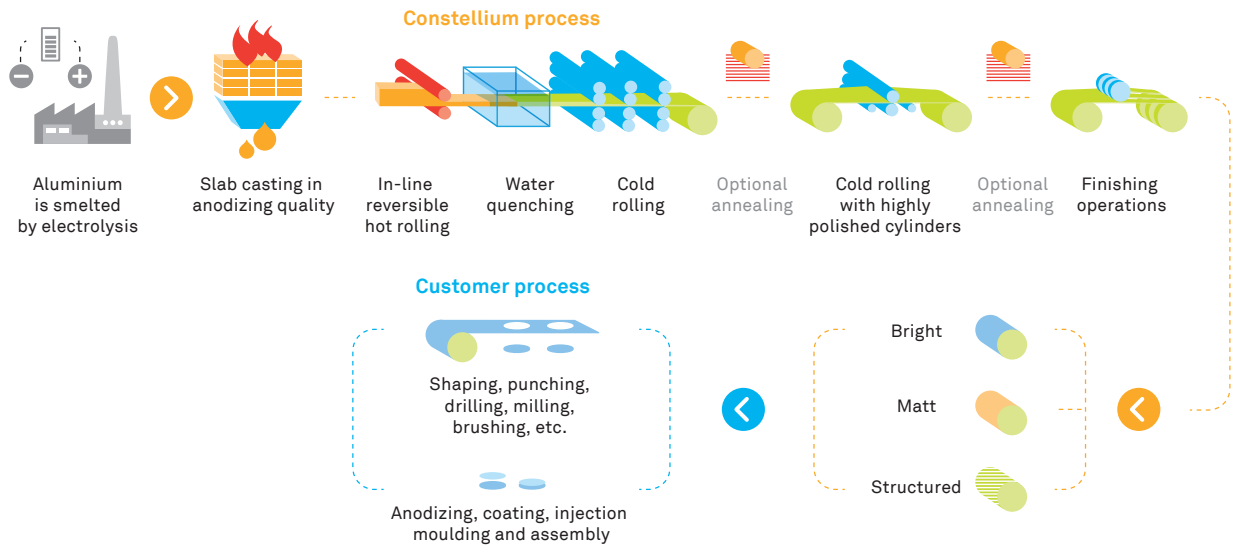
A unique combination of expertise and innovative spirit

Constellium is a global sector leader that develops innovative, value added aluminium products for a broad scope of markets and applications, including aerospace, automotive and packaging.

In our P&ARP (Packaging & Automotive Rolled Products) Singen plant, we produce and develop aluminium sheets and coils with advanced bright and functional surfaces for a wide range of applications such as lighting, solar, automotive, decorative and cosmetics. Our customers rely on our products for elegant car design.

Innovation is at the heart of our business and our dedicated multi-disciplinary teams constantly develop new surfaces from our world class R&D centre in Voreppe combined with our industrial capabilities in our Singen plant.

Production process



Our innovation capabilities

Constellium's process simulation



- Casting unit
- We can prototype new alloys for new applications from casting to finishing.
- Hot and cold semi-industrial rolling mills
- We are equipped with all machines necessary to transform the alloys into strips and sheet products and apply all thermal treatments.

Customer's process simulation



- Surface treatment on continuous or batch line
- We can simulate the customer's anodizing and surface treatment processes, such as coating.
- Formability lab
- We can numerically model and simulate the customer's forming process, and perform formability and assembly tests, such as stamping and direct injection moulding.

R&D analysis



- Microscopic analysis
- We can understand the alloy structure and recommend improvements based on the microscopic analysis.

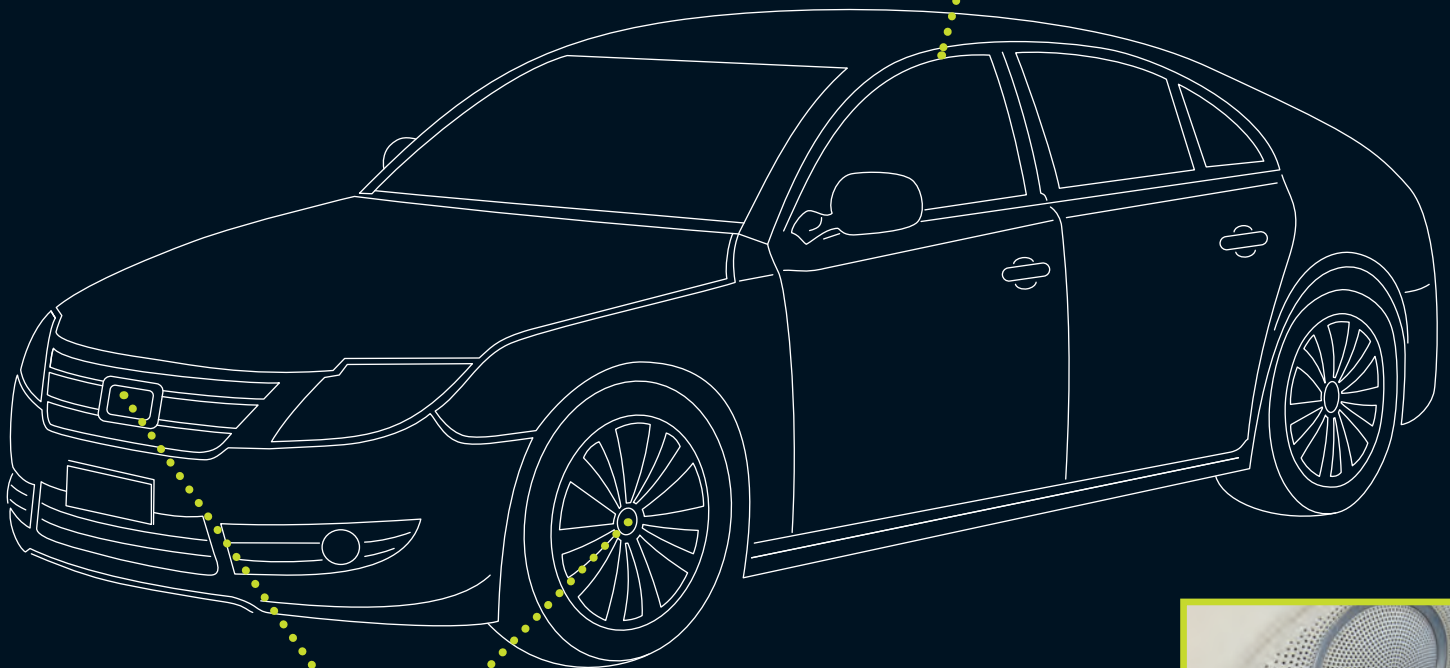
Elegant interior and exterior car design based on our aluminium functional surfaces

Staybright™ benefits:

- High level of brightness even after many washings
- Stable and reproducible surface characteristics
- A single functional surface for different surface treatments



430 Staybright™



305/310 High bright



430 Rolled bright



430 Rolled bright



430 Rolled bright



310 High bright



430 Rolled bright



430 Rolled bright



430 Rolled bright



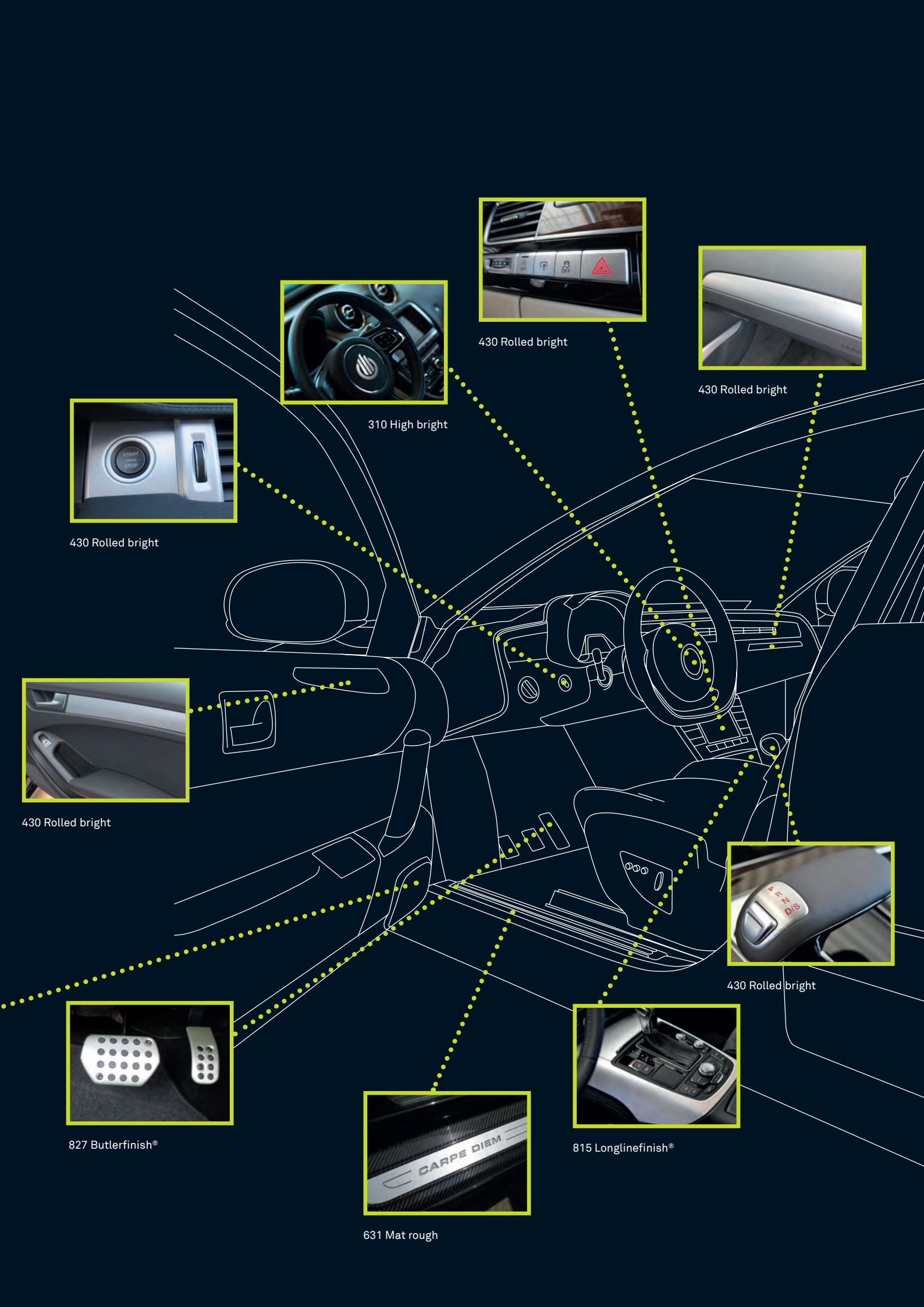
827 Butlerfinish®



631 Mat rough



815 Longlinefinish®



Constellium semi-finished coils/sheets specifications ¹⁾

Surface characterisation	Constellium surface N°	Name	Alloys				Applications	Direct reflectivity/ Diffuse reflectivity	Properties						
			1xxx High purity grade	3xxx Manganese alloy	5xxx Magnesium alloy	8xxx Other alloyed elements			Automotive	Temper			Suitable for deep-drawing	Shaping-embossing	Qualities ³⁾
										O (soft)	H1x (rolled) ²⁾	H2x (annealed)			
Bright	200	Mirror	x				x	++++/-		H19			x	ES	
	310	High bright	x				x	++/-		H19	x		x	EN, ES	
	430	Rolled bright	x		x	x	x	+/-	x	x	x	x	x	ED, EG, ES, EI, EN	
	430	Staybright™	x		x		x	+/-		x	x	x	x	ES	
Mat	615	Mat fine	x				x	-/+		H19			x	ES, EI, EN	
	631	Mat rough	x	x*	x	x	x	-/++	x	x	x	x	x	EI, EB, EN	
Structured	815	Longlinefinish®			x	x	x	-	x	x	x	x	x	EI, EN	
	824	Butlerfinish® (fine)	x		x		x	-	x	x			x	EI	
	827	Butlerfinish® (coarse)	x		x		x	-	x	x			x	EI	

EB Anodising quality for decorative etching, e.g. high-quality signs

ED Anodising quality with partially etched areas, e.g. decorative signs & nameplates

EI Anodising quality for pure industrial anodisation

EN Lacquering quality – suitable especially for transparent lacquering

EG Anodising quality for chemical or electrochemical brightening with low earing, e.g. cosmetic applications

ES Anodising quality for chemical or electrochemical brightening, e.g. cosmetic and trim parts (automotive)

1) Internal specifications for alloy & surface definitions on request

2) Other temper conditions on request

3) For more details please ask your commercial or technical contact

* Prerolled coil

Contact

Address

Constellium Rolled Products Singen GmbH & Co. KG
Alusingen-Platz 1
78224 Singen
Germany

Phone

Sales contact
+49 7731 80 3328

Technical contact
+49 7731 80 3205

Fax

+49 7731 80 6333

Mail

info.functional-surfaces@constellium.com
technical.customized-solutions@constellium.com

www.constellium.com