

INDUSTRY

# ALPLAN<sup>TM</sup>

## Beyond Precision

Improve your machining efficiency



# Take the productivity and cost-efficiency of machining to another level

Up to  
**15x**

**better flatness**  
vs.industry standards

Up to  
**40%**

**less material needed**  
vs.mill finish plate

Up to  
**90%**

**reduction in part rework**  
vs.mill finish plate

**3x**

**more stable**  
vs.mill finish plate



[www.msspl.co](http://www.msspl.co)

# Alplan™ Beyond Precision range

Constellium has developed a complete Alplan™ range that features both an outstanding dimensional stability and ready-to-use precision. These rolled aluminium plates are now offered in seven variants to fit to your exact mechanical requirements.

2xxx serie

Alplan™  
2017A

5xxx serie

Alplan™  
5083

Alplan™  
5754

6xxx serie

Alplan™  
6061

Alplan™  
6082

7xxx serie

Unidal

Alplan™  
7075

# Our Alplan™ Beyond Precision delivers concrete, measurable benefits to directly impact your business

Our Alplan™ can deliver performance on an unlimited range of applications. Here are a few successful examples:

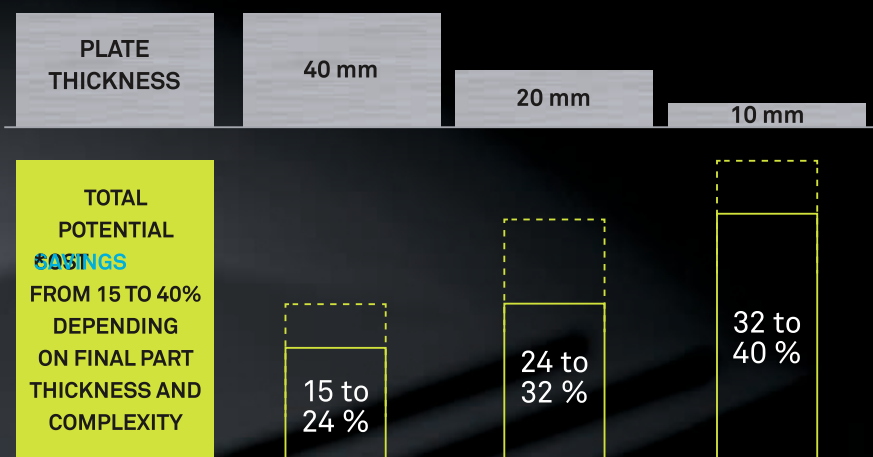
- **Jigs & fixtures:** base plates, control plates, positioning templates, hole drilling master plates
- **Food conditioning machinery:** base plates, side plates, guides, conveyor elements
- **Printing machinery:** base plates, side plates, guides, conveyor elements
- **Automatic assembly lines:** side plates, guides, conveyor plates



## MAXIMIZE COST-EFFICIENCY OF MACHINED PARTS

Using Constellium's Alplan™ solutions enables you to lower the cost of your machined parts, acting on several levels:

- Less material to order and to store: no need to purchase extra thickness as the Alplan™ are delivered with very tight thickness and tolerances
- Less machining to perform: surface milling is not necessary as our Alplan™ are ready to use with a high level of precision
- No parts rejected or reworked: the outstanding shape stability, associated with the protective film, both enable you to avoid costly reworks on final parts



\* Savings calculations are based on the comparison between Constellium's Alplan™ range and standard mill-finished plates.

## FOSTER A LEANER PRODUCTIVITY

You can count on our Alplan™ to boost your delivery rate while enjoying a lean and predictable supply chain:

- Easier and faster machining cycle: the outstanding shape stability of our Alplan™ and their tight dimensional tolerances enable you to shorten the manufacturing time and accelerate the output of your production line
- Highly repeatable: our Alplan™ allow for a lean supply chain thanks to their constant and predictable stability during and after machining
- Less chips from machining means less time to clean and less storage. Another aspect that will lean out your manufacturing process

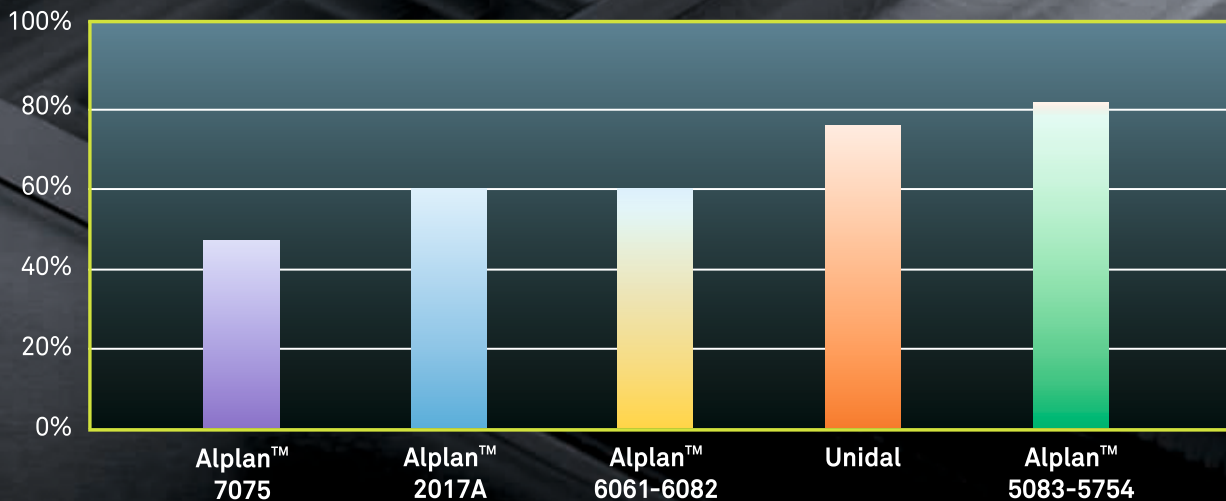
- ▶ Up to 50% reduction in machining cycle time, from mother plate to finished part
- ▶ Tremendous reduction in rework and part non-conformities

# The benefits you get come from these market-unique product features and know-how

## Outstanding dimensional stability

Thanks to a very low level of residual stresses in our precision milled products, deformation remains unnoticed during and after machining

SHAPE STABILITY IMPROVEMENT\* (VS. STANDARD PRODUCT)

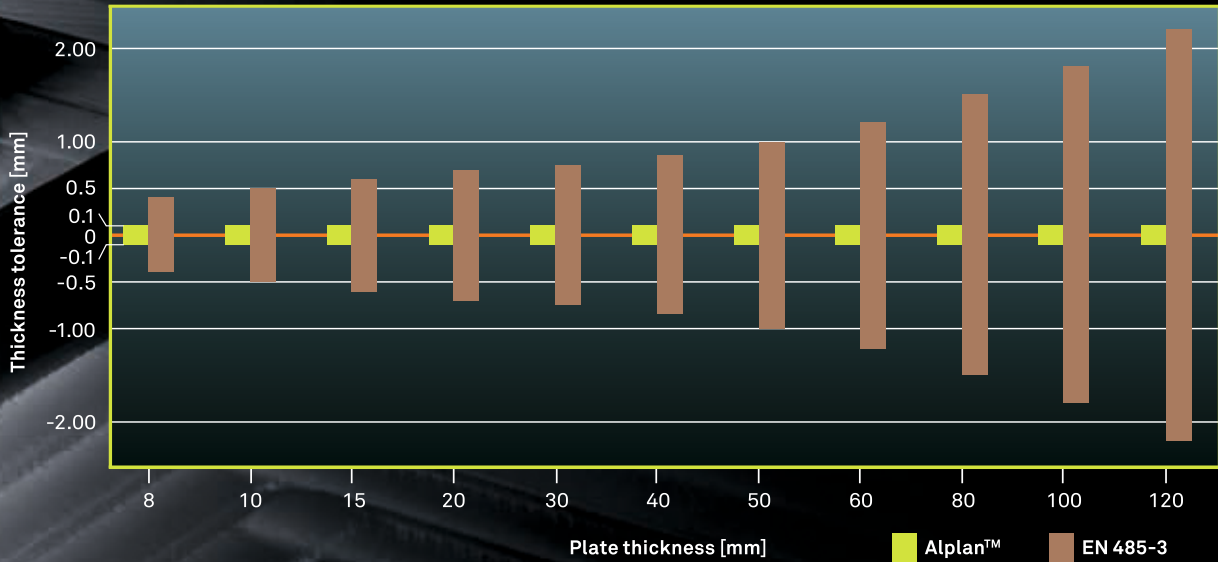


\* Assessed by the reduction of the total stored energy obtained in Alplan™ vs standard products, following a layer removal method

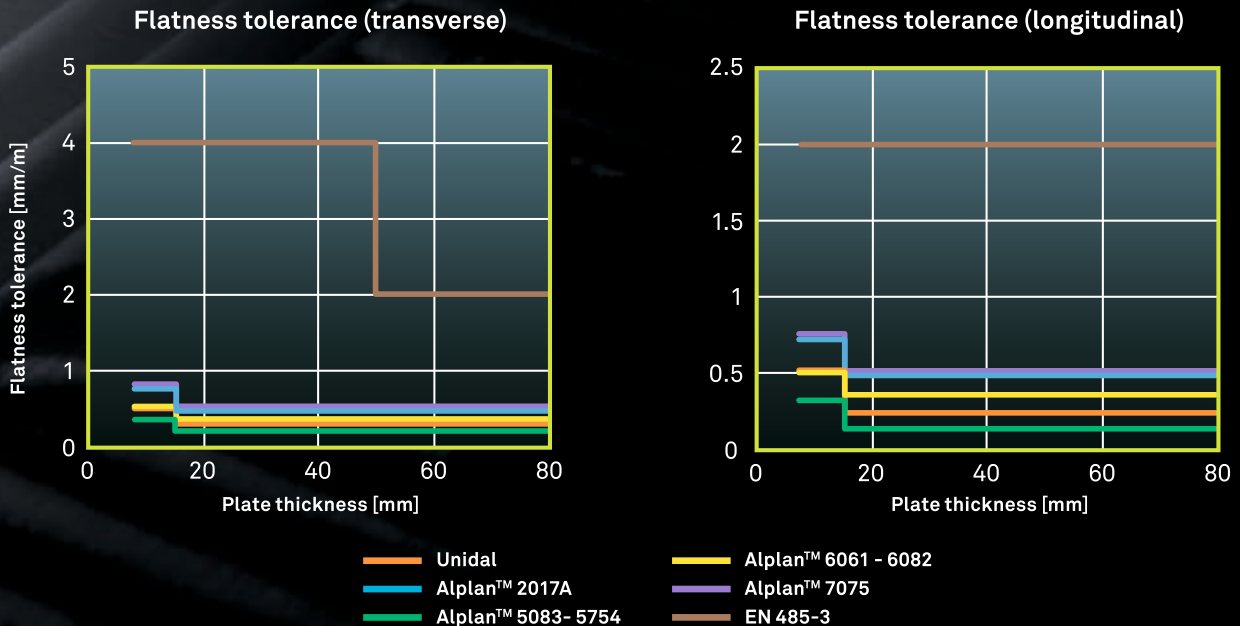
# Ready-to-use precision

Identical in both longitudinal and transverse directions respect to rolling direction and guaranteed value before/after cutting, with appropriate cutting conditions

## THICKNESS TOLERANCE: SAME LEVEL FOR ALL THICKNESSES AND ALL ALPLAN™



## FLATNESS TOLERANCE: IDENTICAL IN BOTH DIRECTIONS AND GUARANTEED VALUES BEFORE/AFTER CUTTING, WITH APPROPRIATE CUTTING CONDITIONS



# Protective film

Our Alplan™ are all delivered with a protective foil to reduce risks of damages and increase the ease of handling.

# TECHNICAL FACTS

## PRODUCT FEATURES

Alplan™	Dimensional stability	Thickness tolerance	Flatness tolerance	Mechanical strength
Unidal	Excellent	Excellent	Excellent	Excellent
Alplan™ 2017A	Very good		Excellent	Very good
Alplan™ 5083	Excellent		Excellent	Good
Alplan™ 5754			Excellent	Good
Alplan™ 6061	Very good		Excellent	Very good
Alplan™ 6082			Excellent	Very good
Alplan™ 7075			Very good	Excellent

## MECHANICAL STRENGTH (for 25 mm thickness)

Alplan™	TENSILE STRENGTH	YIELD STRENGTH
	$R_m$ [MPa]	$R_{p0.2}$ [MPa]
Unidal	410	355
Alplan™ 2017A	415	270
Alplan™ 5083	285	150
Alplan™ 5754	205	105
Alplan™ 6061	325	295
Alplan™ 6082	350	305
Alplan™ 7075	575	510

## DIMENSIONS

Alplan™	Thickness range [mm]	Maximum width & length [mm x mm]
Unidal	6 - 110	1520 x 3020
	111 - 120	1270 x 2520
Alplan™ 2017A	8 - 85	1520 x 3020
	86 - 115	1020 x 2020
Alplan™ 5083	6 - 150	1520 x 3020
Alplan™ 5754	6 - 150	1520 x 3020
Alplan™ 6061	8 - 140	1520 x 3020
Alplan™ 6082	8 - 140	1520 x 3020
Alplan™ 7075	10 - 80	1520 x 3020
	81 - 120	upon request

