



Alplan

SPECIALITY PLATE

Maximum shape stability

Ultra precision accuracy

High quality anodising

Excellent weldability

Porosity free

Medium strength

The Alusuisse solution: flexibility with a common denominator

Whether for reasons of design or due to production needs, finished precision components are having to meet more and more severe criteria of quality. ALPLAN alloy was developed specifically to meet that challenge.

No matter how difficult the specification, ALPLAN precision plates meet the most stringent of size and shape stability requirements. They

guarantee mechanical strength and extremely tight thickness and flatness tolerances.

The excellent machinability of ALPLAN precision plates permits much higher cutting speeds than for steel, and extends tool lives considerably.

The plates can be welded by the MIG and TIG processes.

Alplan's good corrosion resistance and suitability for anodising - also with colour - allows finished precision components to be flawless in appearance too.

Customer requirement:

Finish machining time on NC machine tools must be much shorter.

Solution:

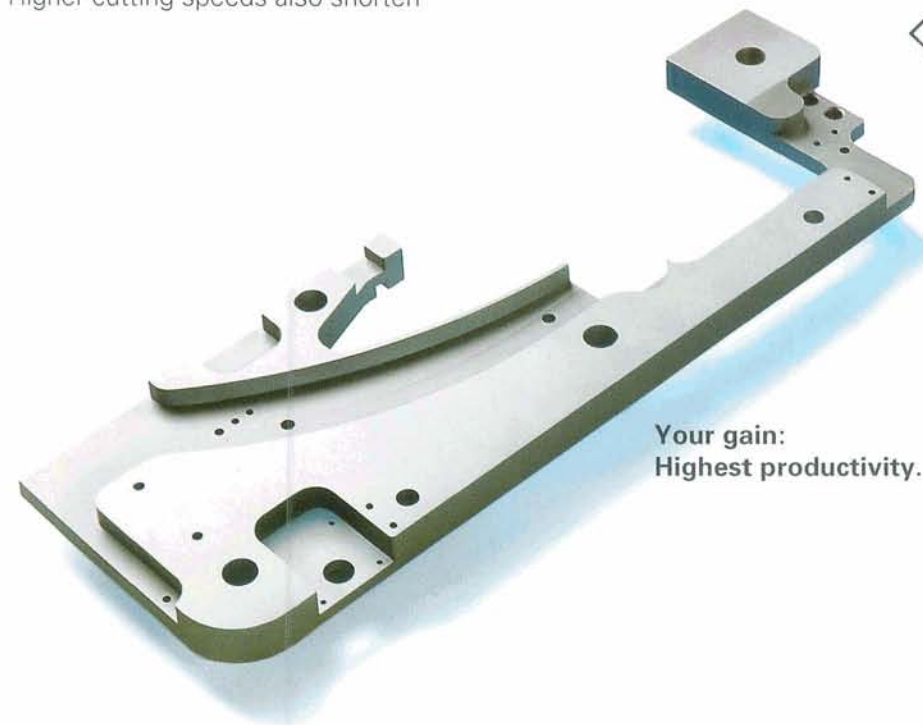
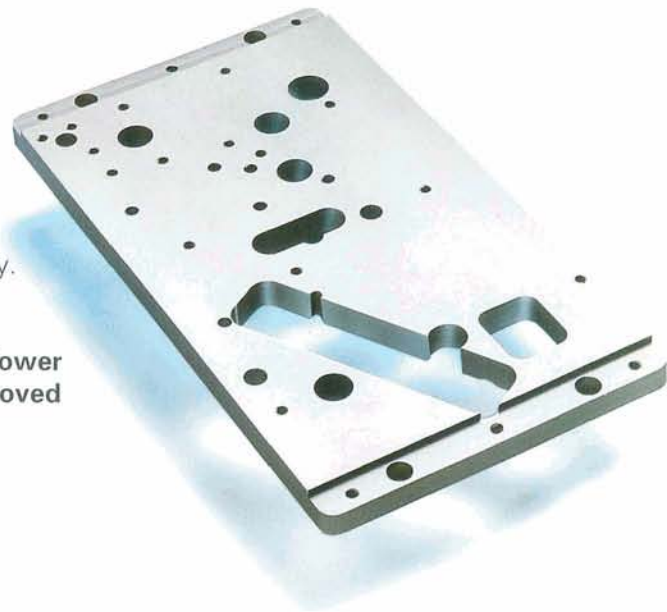
Machining stock supplied as pre-milled plates, which already satisfy extremely tight thickness and flatness tolerances.

ALPLAN precision plates do not need any further re-chucking or surface machining, which previously took up so much machine tool time. Higher cutting speeds also shorten

the machining process and further improve surface quality.

Your gain:

Machine precision parts at lower cost with the bonus of improved quality.



Customer requirement:

The material must keep its tight flatness tolerances unimpaired despite very severe machining conditions.

Solution:

Machining stock supplied with optimal shape stability resulting from an exceptionally low internal stress level. ALPLAN precision plates retain their shape during and after machining with high cutting speeds - so there's no need for a separate final machining pass.

**Your gain:
Highest productivity.**



Customer requirement:

Surface treatment has to provide corresponding visual quality.

Solution:

Use of an anodisable alloy with high corrosion resistance. In addition to



conventional types of aluminium surface treatment, ALPLAN alloy is suitable for anodising with reproducible, matching appearance, even in colour.

Your gain:

Outstanding appearance to enhance your quality image.



Customer requirement:

Various components must be made from a single material with reliable mechanical properties.

Solution:

Wrought alloy rolled plate, supplied with guaranteed strength figures. ALPLAN precision plates for load bearing components.

Your gain:

Lasting security.



Peraluman-470[®] alloy	5083/AlMg4.5Mn derivative alloy	
Product range	Thicknesses:	6 - 150 mm
	Dimensions:	To customers' exact requirements. Blanks, circles or rings.
Physical properties (approximate figures)	Specific gravity:	2.7 g/cm ³
	Elastic modulus:	70 000 N/mm ²
	Coefficient of linear thermal expansion:	24 · 10 ⁻⁶ 1/K
	Thermal conductivity:	1.2 $\frac{W}{cm \cdot K}$
	Electrical conductivity at 20° C:	17 - 18 $\frac{MS}{m}$
Mechanical strength data	Tensile strength Rm:	275 - 350 N/mm ²
	0.2 % Yield strength Rp 0.2:	130 - 190 N/mm ²
	Elongation A5:	min. 17 %
	Brinell hardness HB:	approx. 68
Tolerances	Thickness:	± 0.1 mm
	Flatness:	0.35 mm/meter for thicknesses ≤ 15 mm 0.15 mm/meter for thicknesses > 15 mm
	Surface roughness:	Ra max. 0.5 microns