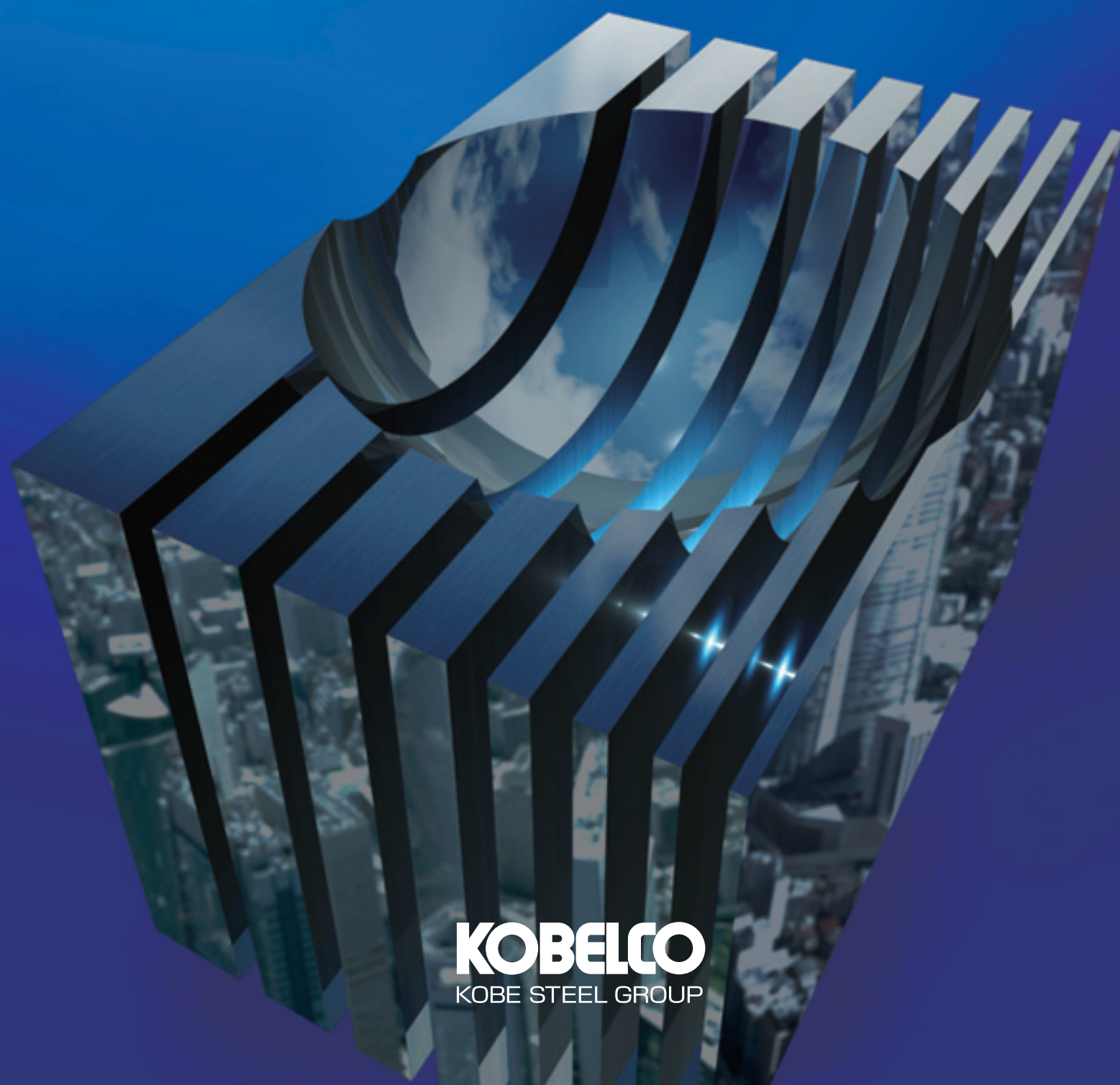


High Precision Aluminum Alloy Plate for Precision Machining

ALHIGHCE-IIITM



KOBELCO
KOBELCO STEEL GROUP

High precision plate ALHIGHCE-III from Kobe Steel realizes minimization of strain at the time of machining!

High Precision Aluminum Alloy Plate for Precision Machining

ALHIGHCE-III™

To meet our customers' needs we have sought minimization of residual stress, improvement in surface quality, excellent thickness accuracy and superior surface flatness. As a result newly evolved high precision aluminum alloy plate, ALHIGHCE-III, has been produced.

Features

- The original heat treatment allows minimization of residual stress. It integrates the function of ALSORAN (our product that removes cutting strain).
- Upgraded surface inspection method dramatically improves quality control level of both sides of the plate.
- Prominent rolling technology realizes excellent thickness accuracy.
- Strict quality inspection is carried out for all plates to obtain high quality.

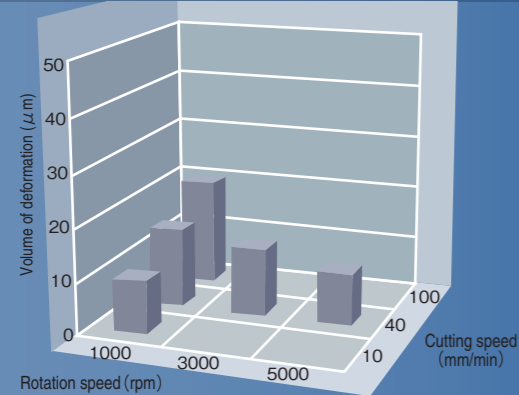
Applications

Semiconductor manufacturing equipment, Liquid crystal display manufacturing equipment, Solar cell panel manufacturing equipment, Robot, Medical equipment, OA equipment, Optical equipment, Various molds, Jigs, etc.

Central value of deformation after cutting and Image figure of residual stress distribution

Flatness of finished good

Deformation after cutting of conventional ALHIGHCE-II



Deformation after cutting of ALHIGHCE-III

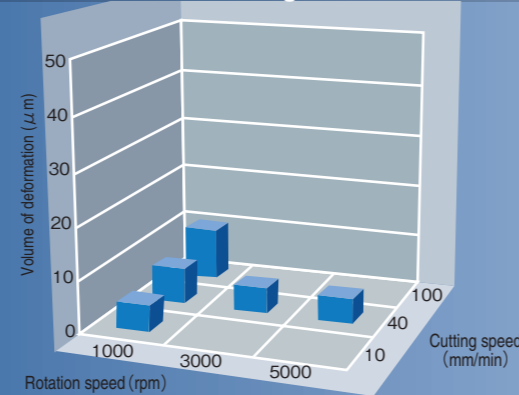
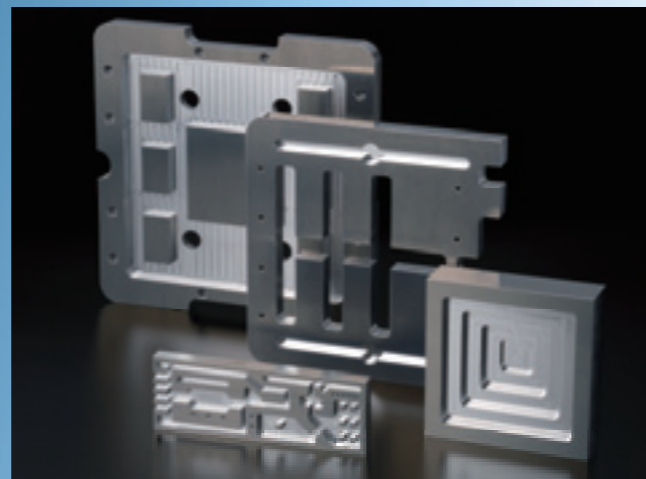
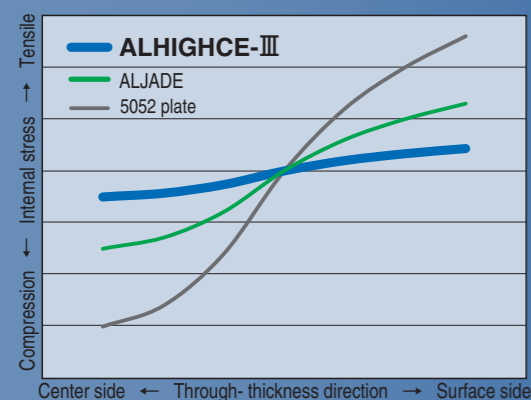


Image figure of residual stress distribution



ALHIGHCE-III contributes to improvement of production efficiency for the customers by omission of strain-removal annealing at the time of machining and other advantages.

Material and Component

A5052P-H112

(Unit: Wt%)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Al
≤0.25	≤0.40	≤0.10	≤0.10	2.2~2.8	0.15~0.35	≤0.10	96≤

Thickness tolerance

(Unit: mm)

Plate thickness	4.5.6	7.8.10.12	15.16	18	20.22	25	30.32.35	40.45	50
Thickness tolerance of ALHIGHCE-III	±0.04	±0.05	±0.08	±0.09	±0.10	±0.12	±0.15	±0.20	±0.25
Variation in one original plate (reference)	0.02	0.03	0.05	0.06	0.07	0.09	0.12	0.15	0.2

Reference

Plate thickness	4.5	6	7.8	10	12.15.16	18.20.22	25	30.35	40	45.50
JIS tolerance	±0.35	±0.45	±0.50	±0.60	±0.70	±0.80	±0.90	±1.0	±1.1	±1.3

Surface flatness

0.2 mm and below /M

Reference

ALJADE™
 Plate thickness 4 ≤ Thk ≤ 30mm 0.6mm/M
 Plate thickness 30 < Thk ≤ 50mm 1.2mm/M

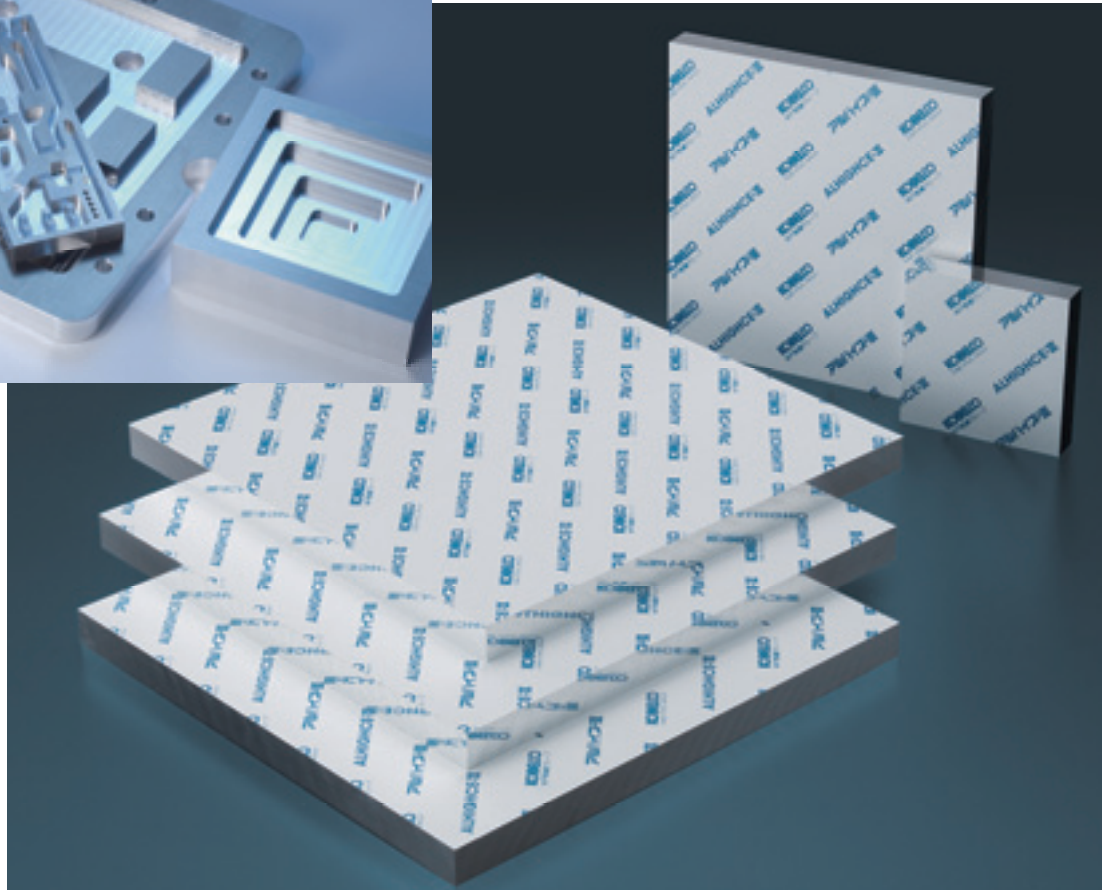
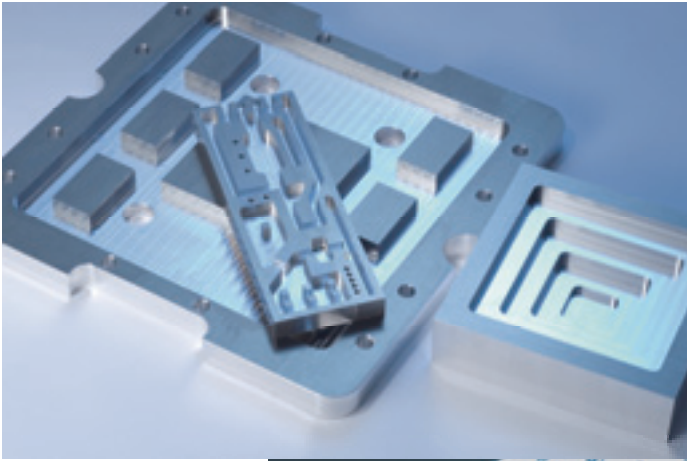
Mechanical property (central value)

Plate thickness (mm)	Tensile strength N/mm ² (kgf/mm ²)	Proof stress N/mm ² (kgf/mm ²)	Elongation (%)
10	216 (22)	127 (13)	26
20	196 (20)	108 (11)	28

Manufacturing dimensions

(Unit: mm)

Plate thickness	Width × Length
4~50	1,000 × 2,000
	1,250 × 2,500
	1,525 × 3,050



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