

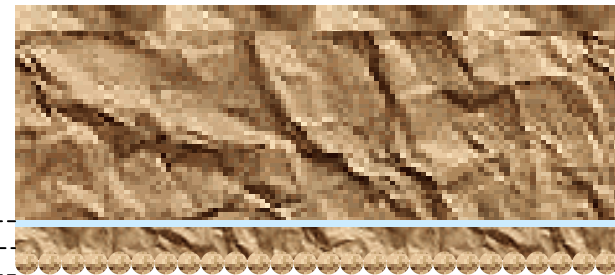
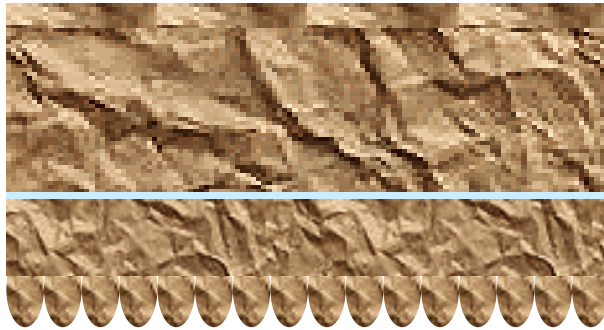
Product Line

For L/S 35/35

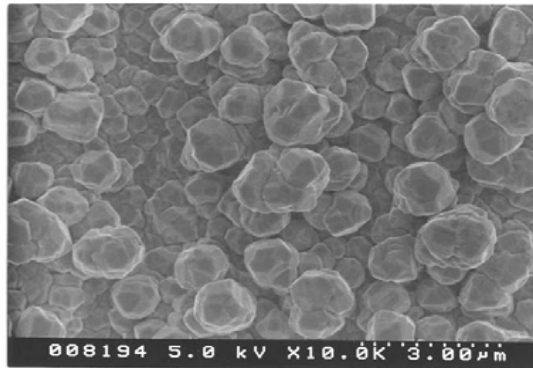
For L/S 30/30 or >

MicroThin — S (MTSD-H)

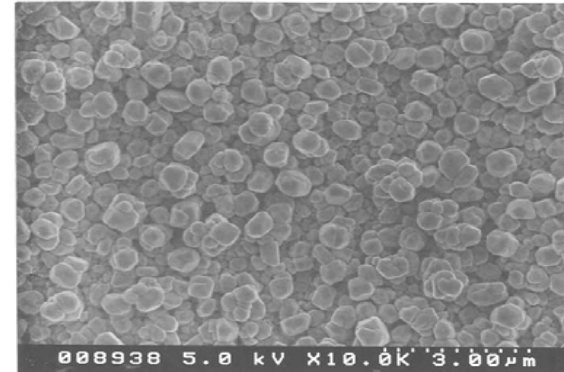
MicroThin — Ex



Cross section



Matt side photos with the same magnification



Even lower treatment profile

Special minute nodule treatment.

Physical Properties

MicroThin Series



	Roughness	Thickness of Copper bulk			Thickness Uniformity	Peeling Strength: R/S	Pin Holes: P/H
	Laminating side Rz (μm)	um			um	FR5 (gf/cm) ※1	The No. of PH/m ² ※2
MT-EX	2.0um	3	2	1.5	± 0.2	1	0
Microthin-S	3.0um	5	3		± 0.2	1	

	Releasing Strength			Durability for higher lamination temperature	Max. Width
	Room Temp (gf/cm)	After 185c/1hr (gf/cm)	After 230c/1hr (gf/cm)	Type	Supply width (mm)
MT-EX	10~20			D-H ※3	1300 ※4
Microthin-S					

- ※1 Plated to 35um .
- ※2 Diameter of Pin Hole $\geq 30\mu\text{m}$.(Excluding 1.5um copper bulk type)
- ※3 D-H=MTSD-H, around 20gf/cm as a stable R/S up to 230C/1hr hot press lamination.
- ※4 The width we we can assure the quality is up to 1260mm.

Ultra Fine Line Formation

Image

Line and Options Out comes

Gap

35/35

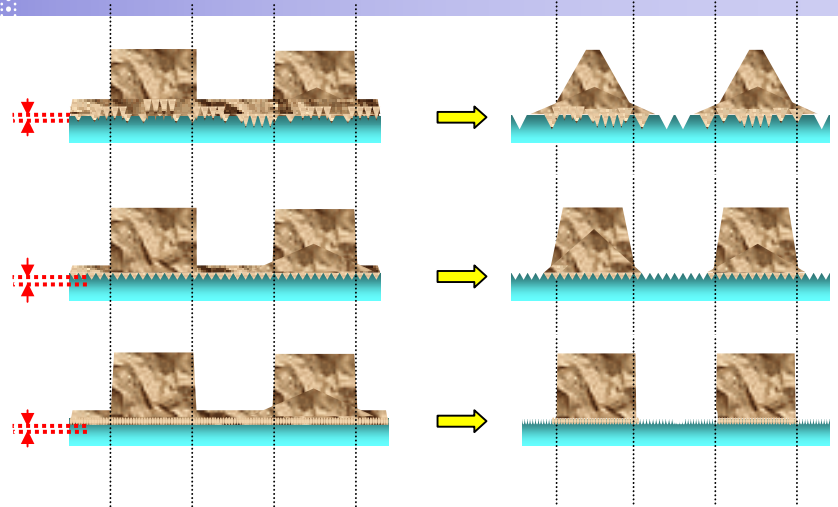
Half Etching



MTSD-H



MT-Ex



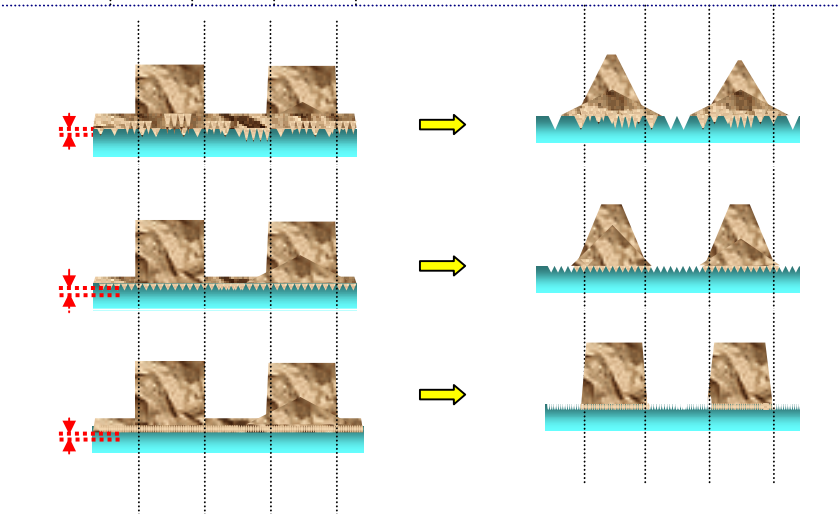
30/30

Half Etching

MTSD-H



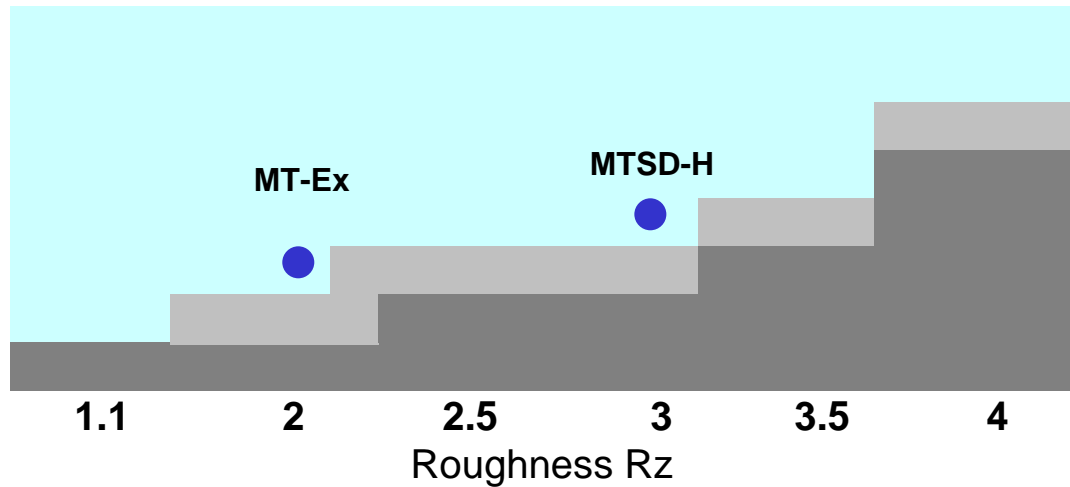
MT-Ex



Importance of the Roughness Design

L/S to aim

- ≥ 50/50
- 50/50
- 45/45
- 40/40
- 35/35
- 30/30
- 25/25
- 20/20



OK

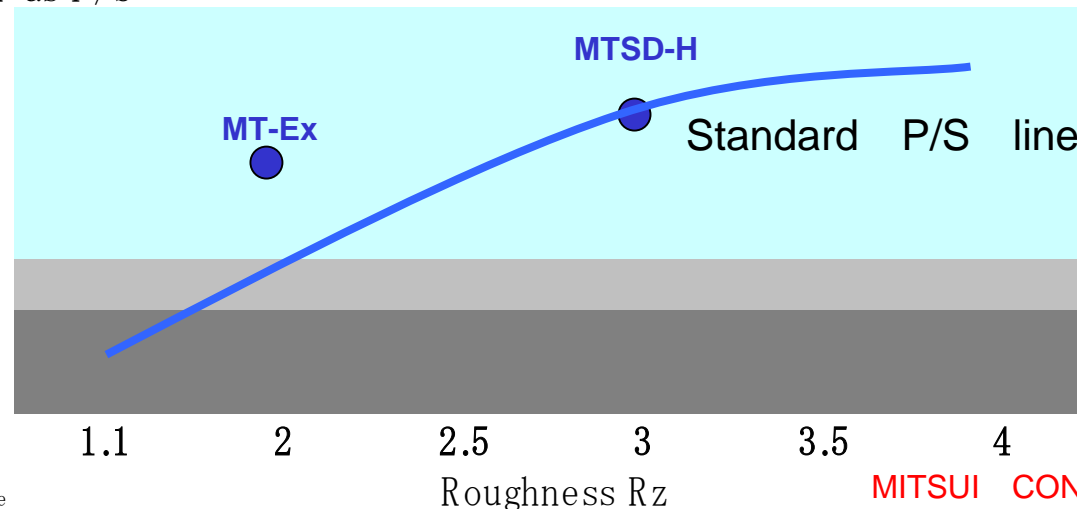
May be OK

Difficult

Peel strength

kgf/cm as P/S

- ≥ 1.4
- 1.4
- 1.2
- 1
- 0.8
- 0.6
- 0.4
- 0.2



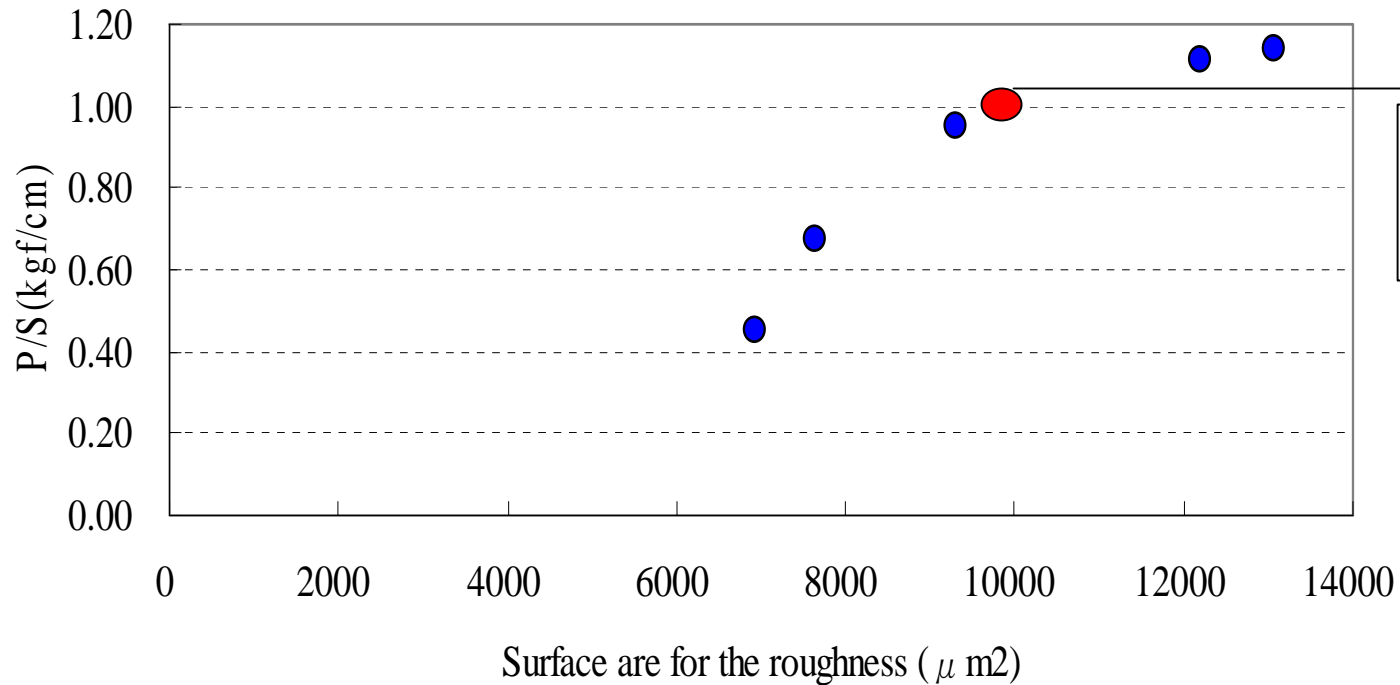
Sufficient

Weak

Too weak

Surface Area V/S P/S

Measurement by a laser microscope (Area focused is 6,030 μm^2)



P/S on various High Tg materials

