

# We have revolutionized the common sense of plating.

New technology of direct  
plating on glass materials  
with no etching.

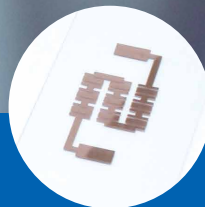
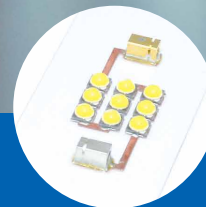
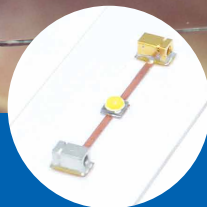
We challenged ourselves to what major plating companies gave up doing  
in despair and said "we can't do that" and when we used molecular bonding  
technology for plating on glass materials we could realize plating on glass  
with strengths of material of **2 N/cm and more.**

The new  
plating technology!  
[MARBS]

**Patent  
pending**

Japanese Patent Application  
No. 2018-148916

No need for surface  
roughening! Plating can  
be done on this slippery  
glass surface!!



**H S**  
HOKOSHA

<http://marbs.pro>

The new plating technology "MARBS" is a next-generation PCB wiring technology combining two patented technologies:  
the "molecular bonding technology" invented by Sulfur Chemical Laboratory Co., Ltd. and PCB technology of Hokosha Co., Ltd.

# With the new plating technology "MARBS" plating can be realized on special materials which are difficult to work with using existing technologies and on those with insufficient strength!

## List of materials with which practical levels of strength have been achieved

PTFE resin board  
※ Tetrafluoroethylene propylene: teflon

RF-60A resin board●  
※ PTFE + glass fiber cloth + ceramics

CER-10 resin board●  
※ PTFE + glass fiber cloth + ceramics

TLY-5A resin board●  
※ PTFE + glass fiber cloth

●High frequency application materials with excellent dielectric properties and low water absorption

## Special resin materials

**Super engineering plastics**  
PPS (polyphenylene sulfide)  
LCP (liquid crystal polymer)  
PI (polyimide sheet) Kapton ®

**Engineering plastics**  
PC (polycarbonate)  
PPA (polyphthalamide)

**General purpose plastics**  
PP (polypropylene)  
PVC (Polyvinyl chloride)  
UP (unsaturated polyester)  
Good adhesion with other resin materials

## Soda-lime glass

White plate glass (high grade white glass)  
Blue plate glass (low grade general soda-lime glass)  
B270®i (The ultra white glass by the German company Schott) and others

## Borosilicate glass (heat-resistant glass)

TEMPAX (Low alkali borosilicate glass by the German company Schott)

## Quartz glass

Synthetic quartz

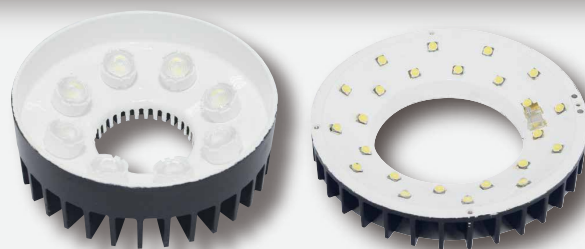
## Why do not we challenge ourselves towards the future together?

We are looking for partner companies.

※ Please make inquiries using the contact information at the bottom of the page.

## MARBS is a Supporting Industry Certification Project.

The project for "development of LED ring lighting using curved wiring technology to improve the inspection accuracy of visual inspection equipment" received certification as a 2017 Strategic Basic Technology Advancement Support Project (Supporting Industry).



LED ring lighting with a PCB-less structure which excels at heat dissipation (three-dimensional wiring, three-dimensional mounting)

## Introducing the molecular bonding project "Hibikino Research Center"



# HOKOSHA

Official website of Hokosha [www.hohkohsya.co.jp](http://www.hohkohsya.co.jp)

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MARBS Official Website ▶ <http://marbs.pro> ※Written in Japanese