

THE PRODUCTION AND DEFORMATION OF DRYING BOARDS

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Overview

Drying boards are one of the most frequently used equipment in Eastern painting and calligraphy conservation and mounting. Artworks are often pasted on it, and the wet paper achieves a flat result once it dries.

Drying boards are made of different materials and styles depending on the region. In China, it is commonly found that drying boards are made from a single wooden board, or a wall made from pieces of thin wood, either with or without paper attached to the surface. Japanese-style Karibari drying boards are made from wooden strips and multi-layered paper in various forms. Sizes such as 90x180 cm, 106x240 cm, and 120x240 cm are traditional dimensions for drying boards, but other similar or custom sizes are also often used.



Drying wall in the Shanghai Museum, China.

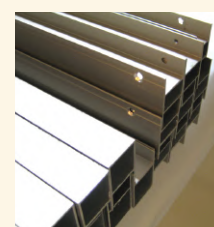


Karibari in the Hirayama Studio at the British Museum, UK

ISSUES

Traditional Karibari requires high-quality wood and skilled carpenters to first construct the wooden frame, then apply multiple layers of different types of paper in sequence, and finally coat it with a waterproof layer of "Shibu" (fermented persimmon juice) before it can be used.

However, obtaining long and higher-quality wood in Taiwan is not as easy as imagined, and the price can be high. Therefore, in 2008, we attempted to use aluminum tubes to make our first set of drying boards, including three widths of 60, 100, and 120cm, all with a height of 285 cm, to match the mounting size of Chinese paintings. After 16 years of use, these boards have not deformed or presented any other issues. We have also experimented with using various materials to make drying boards over the years.



ABOUT ALUMINUM EXTRUSION AND ITS ADVANTAGES

Aluminum extrusion is a process where aluminum material is pressed through a mold under pressure to create a specific shape. Due to its lightweight, corrosion resistance, and ease of processing, aluminum extrusion finds wide applications across various industries and individuals, such as 3D printing applications. Additionally, there is a variety of sizes and weights to choose from. Therefore, we feel that using aluminum extrusions instead of wood in frame construction is an option worth considering.



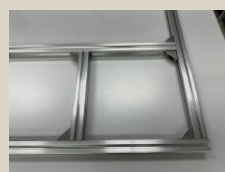
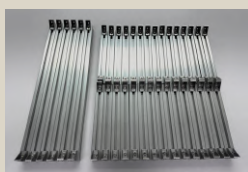
MAKE YOUR DRYING RACK

You'll need to spend some time familiarizing yourself with the functions and dimensions of different accessories. Then, design the structural dimensions of your drying board according to your needs. Finally, easily obtain the aluminum extrusions and related accessories of your desired length from the internet or local material suppliers.

In about 30 minutes, you can use simple tools to assemble the accessories and aluminum extrusion materials into a frame. It is usually a little heavier than the same-sized wooden frame, but it can be safely used, held, and moved by one or two people.

Tips : Typically includes aluminum extrusions, screws, nuts and fixing angle brackets.

Tips : It's easier to assemble with two people working together.



We recommend using aluminum extrusions with a cross-section of 20x20mm for making various standard-sized drying boards, including 90x180cm. For larger sizes, 25x25mm, 30x30mm, or thicker extrusions will be suitable, while for smaller boards, 15x15mm aluminum extrusions can be considered."

Many people are concerned about how to attach paper onto aluminum boards or think there will be difficulties when applying the first layer of paper. But in fact, all the procedures are the same as making traditional wooden drying boards. We can brush 2 to 3 layers of paste on the aluminum frame, avoiding excess pile-up, then apply the first layer of paper and let it dry without adjustments. For the follow-up process, please refer to Pauline Webber and Merryl Huxtable's article "KARIBARI -- THE JAPANESE DRYING-BOARD".

Tips : Tips: T-Slot European Standard Extrusions Profiles are what we recommend.

Tips : Tips: Wait for the paste to dry a bit before applying the second and third layers..



POSSIBILITY OF COMBINED APPLICATIONS

Karibari drying boards are usually used individually, and for larger-sized piece, it is common to create a new one. In fewer cases, some studios may connect two boards using wooden strips and screws.

When using aluminum extrusions as the frame, specialized connecting accessories can be applied to link two or more drying boards, such as parallel connectors and straight line Connectors. Of course, you can also use special aluminum extrusion screws to combine them yourself. With these materials, there are numerous options for customization and combination. You can make minor adjustments according to your specific needs, adding some challenges and fun to your hands-on process. Based on our testing, we recommend the following two aluminum extrusion frame combinations and connectors for your regular use.

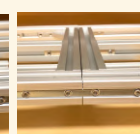
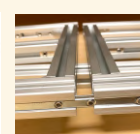


If you have any questions about the combination, please come during the poster's "Authors Dialogue" time, and we have prepared sample frames that you can handle. You can also ask the material provider for more details in the future.

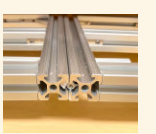
Tips : Currently, there are more connectors available for aluminum extrusions with cross-section dimensions of 20x20mm and 30x30mm. For other sizes, please consult with material supplier.



Using "straight line connectors" to connect 2 drying boards.



Using "parallel connectors" to connect 2 drying boards.



Tips : The picture shows three types of 2020 Series Aluminum Profile Connectors: L-Shape Interior Inside Corner Connector, Extruded Inside L Connector and Corner Bracket. Each has different prices, weights, and structural strengths. In our experience, the Extruded Inside L Connector in the middle is balanced and appropriate.

Additional Notes: We have used persimmon juice, B-72, and acrylic resin as surface coating materials. Even though the material preparation and coating processes are different, the waterproofing effect is very similar. Polyester or Acrylic fiber Screen Cloth can be added in front or in the back of the first layer of paper to increase strength.

Reference: Webber, Huxtable. "KARIBARI -- THE JAPANESE DRYING-BOARD"