

Technical Data

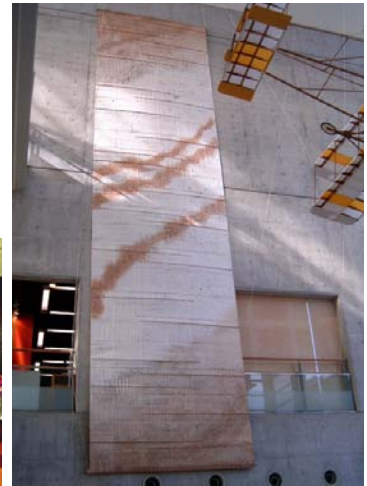
1. Custom Large Sheet



Large handcrafted Japanese parchment can be made to your exact specifications.

Our mission is to meet your exact specifications in providing large, exquisitely crafted pieces of the finest Japanese parchment in the world.

Custom pieces are our specialty, with seamless sheets available as large as 30 feet X 100 feet.



2. Sustainability

Washi controls humidification, has an air purification effect, and it has a spiritual healing effect.

Washi, handcrafted Japanese parchment, is a natural choice for any interior intended to convey a sense of calm. Japanese artisan has an exclusive contract with farmers who only use a bear minimum of chemicals, and employ manual cultivation. It is successfully produced washi without chemical utilization, and does not produce waste (zero emission). There is no other product like this in the world.



Kobo (Studio) in Japan
A lifetime of skill and experience



Washi making Fibers

KOZO(楮)/Japanese Mulberry

KOZO: A member of the Moraceae or Mulberry family. It is sometimes referred to as 'paper mulberry'. It is easily cultivated and accounts for 90% of the bast fiber used. The cut stalks are steamed for easier removal of the bark. The stripped bark is hung to dry then stored until ready to be used. The long durable fibers, interlace well and is said to form a 'masculine' paper. This fiber has been in use since ancient times and is probably the most representative of the traditional fibers.



Precious Pieces
Architectural Parchment For Interiors

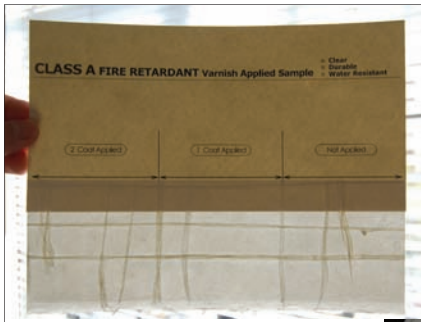
5 Tudor City Pl. #102, New York, NY 10017
(P) 212-682-8505 (F) 212-682-6004
www.precious-piece.com info@precious-piece.com
Showroom: 259 East 10th Street, 1FL, New York, NY 10009

Jun 05, 2008

3. Class A Fire Retardant

Our washi is possible to have Class A Fire Retardant with US approved clear coat. This varnish can be applied by brush, roller or spray. It protects against moisture, chemicals, UV rays and physical abuse, while maintaining the Class A fire protection.

Photo shows that applied onto our premium washi products.



Color difference through the light



Color change with the refraction



Shows very subtle color difference

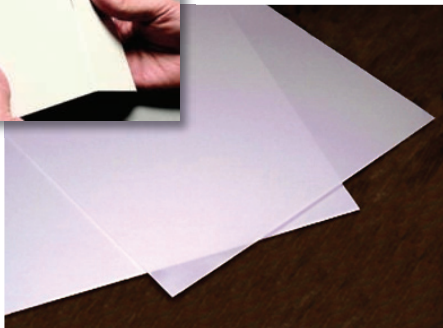
4. UL approval

Our washi is possible to have UL approval rate with styrene backing for lighting fixtures.

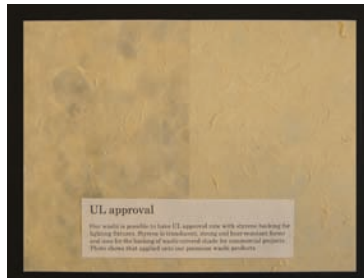
Styrene is translucent, strong and heat-resistant forms and uses for the backing of washi-covered shade for commercial projects. Photo shows that applied onto our premium washi products.



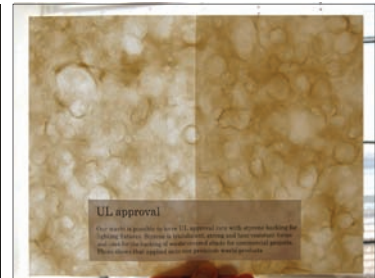
[styrene]



[color change with refraction]



[color change through the light]



5. Durable water-repellent additional coat

Durable Water Repellent (DWR) finish is a coating can be added to any premium parchment to make them water-resistant.

It is not only a protection from water, oils, or environmental pollutants but also maintaining the breathable nature of premium parchment.



used in wet condition



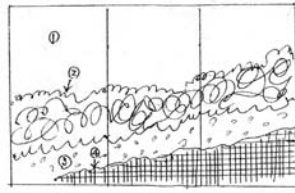
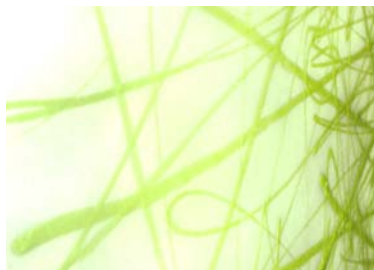
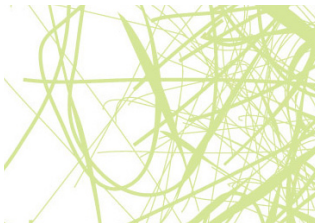
hat made by washi



DWR is often used in conjunction with waterproof breathable fabrics such as Gore-Tex.

6. Custom Original Pattern

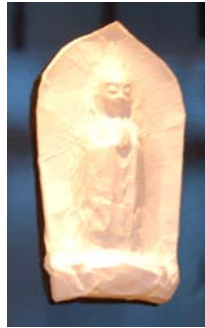
We can create your own pattern with Electrical file, such as pdf, ai, dwg, mcd.



①天井②ベアス(黒)③掃帚④214
⑤清水⑥214 ⑦掃帚⑧214



7. 3D-Washi Parchment



Takushi Jizou
(Washi Parchment Buddha)
MEGU -Mid town-, NYC



Orb
(Tamago light)
3 dimensional parchment lamp
without any frames or supports.



8. Notes for Washi Installations

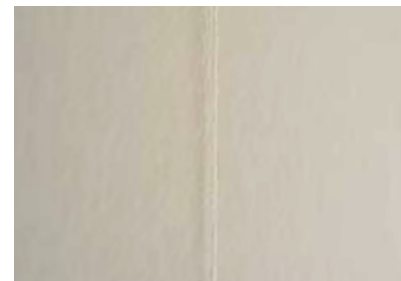
- **Apply Japanese parchment (washi) on glass**
Apply starchy adhesive and bond adhesive with the ratio of 7:3, respectively.
Spread the mixture (mixed adhesive) on washi, and then apply it on glass.
- **Apply Japanese parchment (washi) on acrylic glass**
Apply bond adhesive on acrylic glass first. Mix starchy adhesive and bond adhesive with the ratio of 7:3, respectively.
Then spread the mixture (mixed adhesive) on washi, and then apply it on an acrylic glass.
- **Apply Japanese parchment (washi) on mortar or plywood**
Base material may discolor the washi, please make sure to apply sealer before placing it.
- **If Japanese parchment (washi) installed in between acrylic plate or glass,**
in order to avoid developing mold in the future, the glue has to be completely dried before placing it.
- **Overlap installation is recommended for most of washi installations (see photo),**
please use soft brush, not the hard paint knives.
- When the adhesive is incorrectly applied on a surface of the parchment, please place a wet sponge on the spot until glue comes out from the surface, then carefully wipe off with dry cloth.
- For butt joint installation use non-glued tape.
starchy adhesive → Aminol



wall coverings



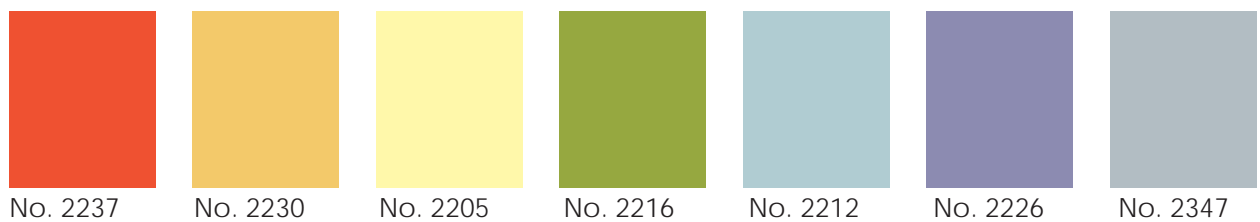
overlap installation (live edge)



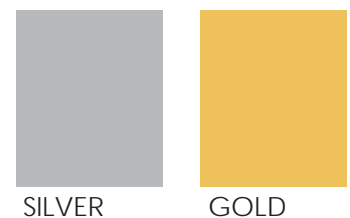
overlap installation (straight edge)



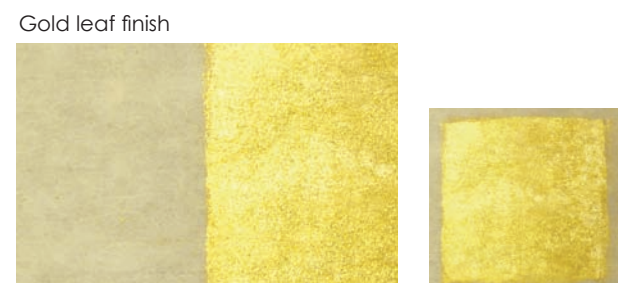
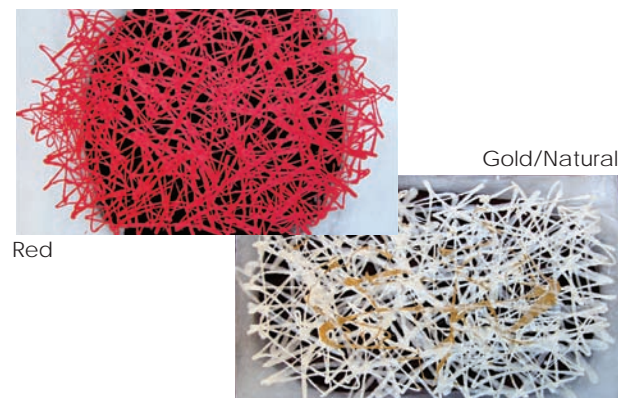
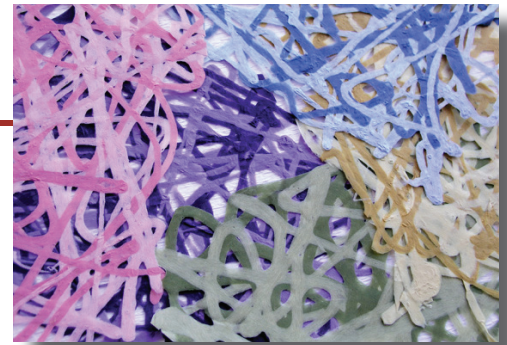
9. Color Chart - based on Japanese traditional color, Fukui Torinoko



We have more color variations. Please use this chart as your reference and ask us about your color if you cannot find it in this chart.



10. Color Variations



Washi Making Process



1. Raw Materials of Washi

The typical raw materials are kozo, mitsumata, gampi and hemp. Paper /Parchment can be made from any plant which has fiber, but these four plants are the best. The idea of using these four raw materials is from the wisdom born in the 1500-year old Japanese parchment, washi, history.

2. Peeling the Bark

Kozo is harvested in winter, and the cut ends of Kozo are steamed over boiling water. Then, after cooling the steamed kozo with water, the bark is peeled off and dried. The bark at this stage is rough and called Kurokawa or Black Bark. Machine paper is made of the woody fiber, the inner part of the plants, while washi is made of the fiber of the bark.

© 2007 Precious Pieces

水
洗
う。
に
っ
け
て

3. Soaking the Black Bark in Water

The black bark is soaked in water for one day. Then the black outer bark and joints will be removed. The remaining inner bark is dried in the sun. Now this bark is called white bark. The white bark is soaked in water again for five or six hours and rinsed in clean cold water. This is to soften the fiber in the bark, making it easy to boil, and to wash away sand, dirt or impurities in the bark.



© 2007 Precious Pieces



Precious Pieces
Architectural Parchment For Interiors

5 Tudor City Pl. #102, New York, NY 10017
(P) 212-682-8505 (F) 212-682-6004
www.precious-piece.com info@precious-piece.com
Showroom: 259 East 10th Street, 1FL, New York, NY 10009

Jun 05, 2008



© 2007 Precious Pieces

4. Boiling the White Bark

The white bark is boiled for one or two hours. It used to be boiled in hot water with lye taken from the ash of burned grass and trees. Now soda ash or caustic potash soda is used instead. This is done to loosen the fiber, and to remove lignin which is determined to the paper.

5. Removing Dirt

The boiled bark is washed again to remove lye. It is washed in a special hut called Kawagoya, or river hut, which has the cleanest running cold water. By soaking it in water, all remaining pieces of dirt and black joints are taken away. This is a necessary stage to get pure white bark for making strong and graceful washi.



© 2007 Precious Pieces



© 2007 Precious Pieces

6. Beating the Bark

The white bark is put on a beating board made of cherry trees and beaten with a heavy square stick. This is done to loosen the fibers. This stage is called Kokai or loosening fiber in the bark. This beaten bark will be elaborately washed in cold running water again to wash starch and dirt away perfectly. This process is called Kamidashi.



7. Neri

Viscose liquid is produced by boiling the bark of a plant called Noriutugi or pounding the root of the plant Tororoaoi. This viscous liquid substance is called Neri. Neri has a marvelous nature that keeps the paper material floating in the vat and on the bamboo framed screen a long time, and it also enables the piled wet paper to be separated easily sheet-by-sheet at the drying stage.



© 2007 Precious Pieces

漉紙
漉



© 2007 Precious Pieces

8. Scooping the solution

There are two methods of making paper, Tame-zuki and Nagashi-zuki.

Tame-zuki is the method imported from ancient China. The solution of paper material is scooped in the vat with a wire-netted framed screen once, and while kept horizontal, the frame is shaken back and forth, left and right to mingle the fiber well.

Nagashi-zuki is an exclusive method developed in Japan about 1000 years ago, between the Nara period and the Heian period, following the discovery of Neri in almost the same period.

The solution of paper material is scooped with Sukiketa or a bamboo-netted framed screen and is shaken back and forth, left and right horizontally. This is repeated several times, but the number of times the paper is scooped depends on the thickness of the paper to be produced.



Precious Pieces
Architectural Parchment For Interiors

5 Tudor City Pl. #102, New York, NY 10017
(P) 212-682-8505 (F) 212-682-6004
www.precious-piece.com info@precious-piece.com
Showroom: 259 East 10th Street, 1FL, New York, NY 10009

Jun 05, 2008

9. Pressing the Wet Paper

The just scooped wet paper is piled up directly sheet-by-sheet on the Shitoita or wooden paper bed. The pile of wet paper is left as it is for one night in order to drain water. Then any remaining water is drained out of the wet paper by pressing little by little with a lever pole, putting two or three weights on the tip.



© 2007 Precious Pieces



© 2007 Precious Pieces

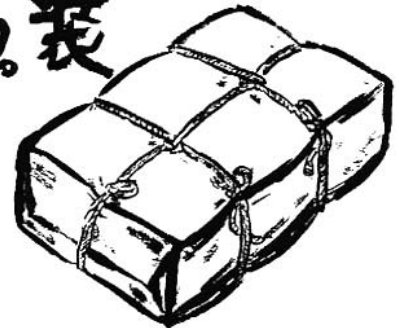
10. Drying

Even after being pressed, the paper is still wet; The paper at this stage is called Shito-gami or paper on the bed.

One-by-one this paper is peeled off by removing strands of grass that have already been placed between the papers.

Using a horse hair brush, each wet paper, which looks like a cloth, is put on a drying board made from the male ginkgo tree; The male ginkgo tree is the best suited because it produces a unique gloss and smoothness which is very important for wash.

すばる装



© 2007 Precious Pieces

11. Wrapping

Both sides of each piece of dried paper are carefully checked. Any paper which has a scratch or dirt and dust on it is separated from the others. The well-examined paper is cut into standardized goods. This paper is wrapped and sold as perfect washi.



Precious Pieces
Architectural Parchment For Interiors

5 Tudor City Pl. #102, New York, NY 10017
(P) 212-682-8505 (F) 212-682-6004
www.precious-piece.com info@precious-piece.com
Showroom: 259 East 10th Street, 1FL, New York, NY 10009

Jun 05, 2008

Technical Data Sheet

Storage Conditions:

Store in a dry, well ventilated area at 40 – to 120 – F.

Surface Preparation:

All surfaces should be fully clean, dry and free of wax, dirt, and sanding dust. Porous surfaces should be sealed with a quality commercial sanding sealer. It is recommended to always test patch a small area prior to complete application.

Viscosity:

25–30 sec (Zahn 3)

Reduction:

Do not exceed 1 pint per gallon

Application Thinner:

Xylene

Clean Up Thinner:

Xylene

Application Methods:

Brush, roller or air-assisted spray. Apply in thin coats to avoid excessive build resulting in appearance problems.

Cure Times: (at 70 – typical)

Dry to Recoat: 30 minutes
Dry to Touch: 1 hour
Dry to Handle: 8 hours
Through Cure: 3 days

Dry Film Build:

5–6 mils total

Coverage Per Gallon:

150 sq/ft (Typical Class A Rating)

Wet Film Build:

4–6 mils per pass

Gloss:

Flat and Satin

Colors:

Colorless

Weight Per Gallon: (Average)

9.33 pounds

Volume Solids: (Average)

42% Average

Weight Solids: (Average)

55% Average

VOC (Max):g/L (lbs/gal)

503 (4.19)

Flash Point:

40–F

Shelf Life:

6 months

Safety:

Consult the Material Safety Data Sheet for this product prior to use.

Additional Comments:

All technical advice, services and recommendations are rendered by the Seller gratis. They are based on technical data which the Seller believes to be reliable. Seller assumes no responsibility for results obtained or damages incurred for their use by Buyer in whole or in part.

Fire Research Laboratories/
Ocean Fire Retardants Inc.

501 Eglinton Avenue East
Suite 210 and 202
Toronto, ON, M4P 1N4

Phone : (800) 877–3473
(877) 485–9003
(416) 485–9000

Fax : (416) 485–9002

e-mail: contact@firelab1.com
www.firelab1.com