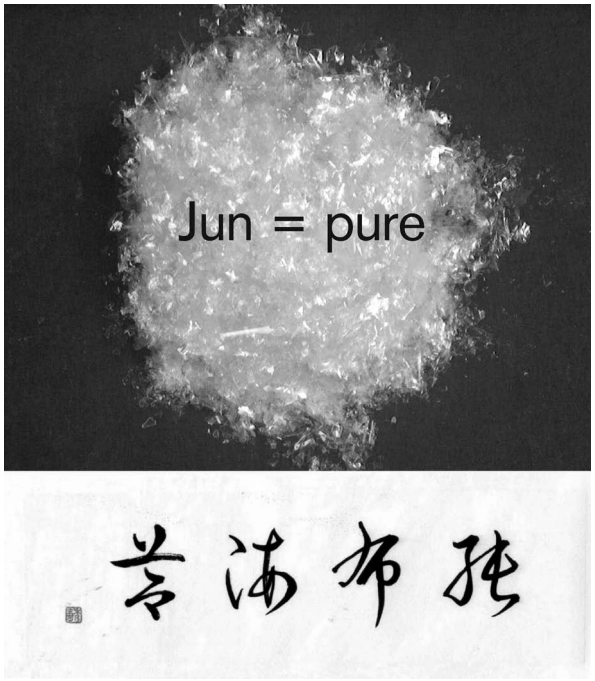
Lascaux
the spirit of colours

Lascaux JunFunori® Water-soluble polysaccharide.

JunFunori is the purified form of Funori, a Japanese glue extracted from the red algae genus Gloiopeltis furcata. Funori is a natural product that varies in quality and is thus subject to impurities. The purified JunFunori is a standardised product with constant properties. It is used in conservation of art and is particularly suited for consolidating matt powdering paint layers. It can also be used as a retouching medium and for facings. JunFunori demonstrates excellent properties which are based on a special purification process which was developed in cooperation with the Zurich University of Applied Sciences ZHAW.
JunFunori is a natural product. The colouring of the powder or the aequous solution may vary depending on the production batch. This does not affect the quality and the efficacy of the product.

JunFunori® is an international trademark owned by Lascaux and manufactured exclusively by Lascaux.



Composition
Water-soluble polysaccharide, extracted from the red algae genus Gloiopeltis furcata, which grows along the Pacific coastline of Japan, China and Korea.

Applications
JunFunori is particularly well suited for consolidating matt powdering paint layers. It has excellent optical properties and stands out from other Funori grades available in the trade by virtue of its very high quality and purity.
Besides its application as a consolidant JunFunori can also be used with good results as a facing and retouching agent, also in combination with sturgeon glue as binder in chalk fillings.

Processing
a) Recipe
Dissolve 1 g of JunFunori in 100 ml of cold water. Stir in a water bath at ± 55°C for several hours until JunFunori is fully dissolved. Make sure the receptacle is stirred regularly during the dissolving process so that any undis solved particles are rinsed off its sides. A smooth flowing solution indicates that JunFunori is fully dissolved.

b) Concentration
The basic solution of 1 weight per cent is very viscous and can be diluted depending on the intended use. In each case the correct concentration has to be determined by testing. Although one might expect a 1 weight per cent solution to be too weak, the adhesive force is sufficient for most applications. If not, the consolidation treatment can be repeated. Concentrations higher than 1.5 weight per cent may no longer dissolve fully.

Notes
JunFunori can also be applied using an aerosol generator, ideally with the AGS 2000 HS aerosol generator from Lascaux. It has been shown empirically that concentrations of 0.1 – 0.15% can be vaporised in an aerosol generator, without the admixture of alcohol.

c) Treatment and storage of the solution
Always add alcohol to the adhesive solution if it is to be stored over a longer period. Measurements have shown that a traditional Funori solution stored in a refrigerator and treated by adding isopropyl alcohol still had the same adhesive strength after 70 days. Without the admixture of alcohol the solution decays within a matter of days, producing a characteristic mouldy odour.
The quantity and type of alcohol used should be chosen according to the sensitivity of the surface to be

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treated; do not add alcohol if in any doubt. For objects sensitive to alcohol apply a new alcohol-free solution every two to three days.
For insensitive surfaces the admixture of 2 percent by volume of isopropyl alcohol has been tried and tested. The isopropyl alcohol works as a biocide and surface-active agent in the solution.
As JunFunori precipitates in pure isopropyl alcohol, caution is required when adding higher alcohol concentrations.
It is therefore recommended to add the alcohol drop by drop and to stir the solution regularly. Adding too much alcohol at once causes a localised increase in viscosity. Smearing occur, which can be dissolved through additional stirring.
The JunFunori solution can be applied cold as it does not gel at room temperature. Warm application is recommended nonetheless as the solution achieves a better penetration due to its lower viscosity.

d) Modification of the JunFunori solution
Usually the adhesive strength of JunFunori is sufficient to consolidate powdering paint layers. Sturgeon glue can be added to improve adhesive strength, for instance for reattaching flaking paint. This also improves the penetration of the algae product. JunFunori acts as a thickener, preventing the sturgeon glue from being absorbed into the substrates. With its excellent optical properties JunFunori also prevents the typical build-up of tide marks or the darkening of the paint layers caused by the sturgeon glue.
To consolidate flaking paint a solution of 4 weight per cent of sturgeon glue was mixed with a JunFunori solution (1 weight per cent in water with 2 per cent by volume of isopropyl alcohol) in a ratio of 1:4 up to 1:1. The ratio depended in each case on the thickness, tension and sensitivity of the paint layers.

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Packaging
In powder form of 1 g

Further reading:
"Funori-Kompressen, Oberflächenreinigung und Reduzierung von Wasserrändern", Françoise Michel, Anita Wanner, Robert Tobler, Restauro, Issue 5, 2006,
"Studies on the polysaccharide JunFunori used to consolidate matt paint", Thomas Geiger, Françoise Michel, IIC, Studies in Conservation, Vol. 50 No. 3, 2005

"Konsolidierung mit JunFunori", Michaela Ritter, Olivier Masson, Papier Restaurierung, Vol. 6, 2005

"Fräulein Huth and the red seaweed: Consolidation of a collage by Kurt Schwitters with JunFunori", Olivier Masson, Michaela Ritter, The Paper Conservator, Volume 28, 2004

"Anwendungsbeispiele auf matter Malerei", Françoise Michel, Zeitschrift für Kunsttechnologie und Konservierung, Issue 2, 2003

"Funori, ein japanisches Festigungsmittel für matte Malerei", Françoise Michel, Thomas Geiger, Anita Reichlin, Geneviève Theo-Sapkota, Zeitschrift für Kunsttechnologie und Konservierung, Issue 16, 2002

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