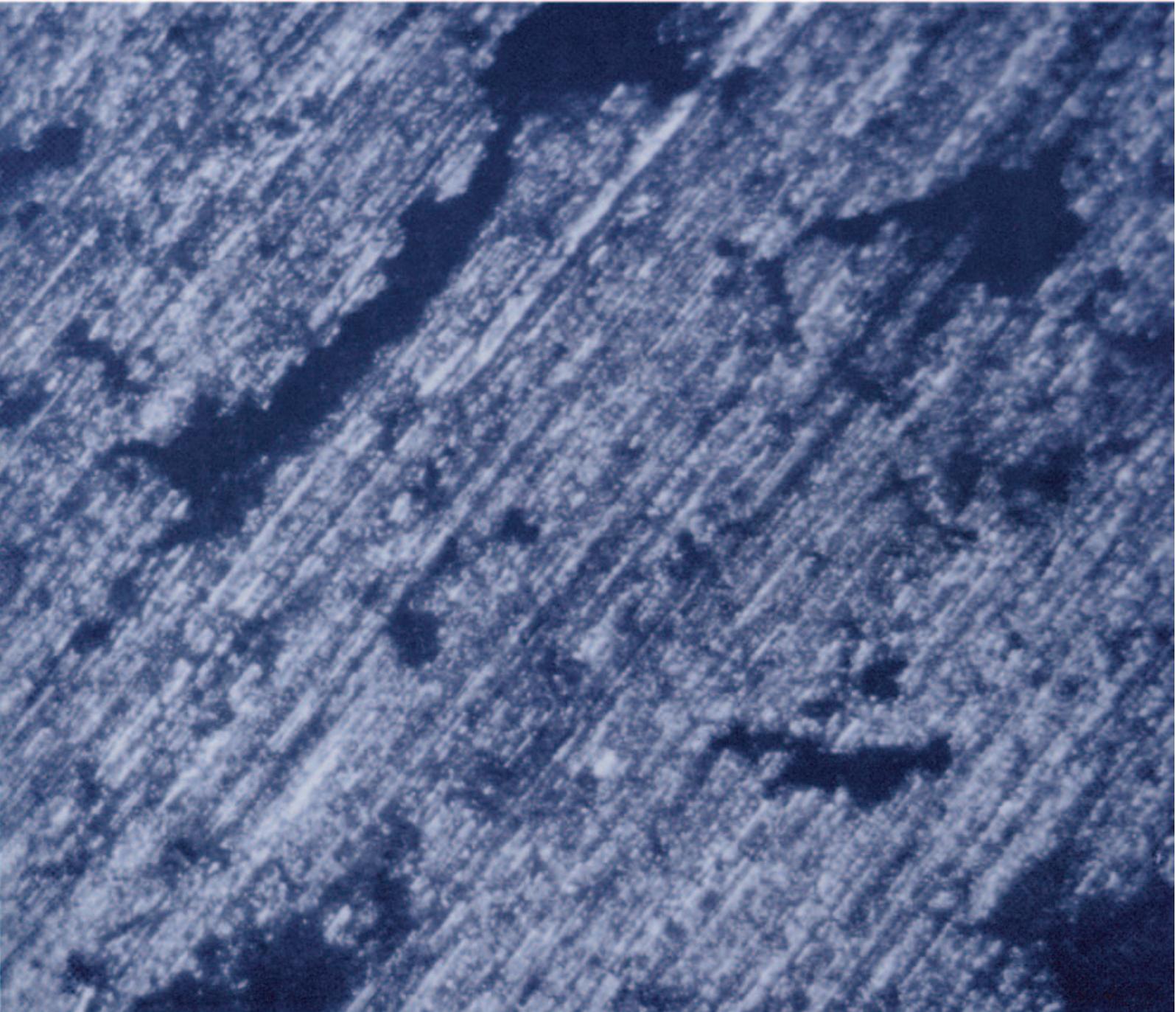


Chuo Hatsumei Institute Co., Ltd.

# Chuo Hatsumei's Impregnation Technology

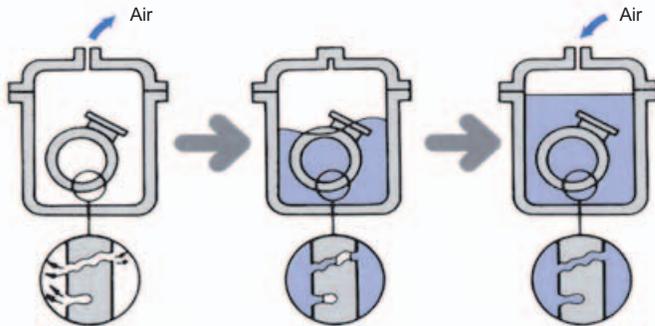


# Chuo Hatsumei is the leader in impregnation technology

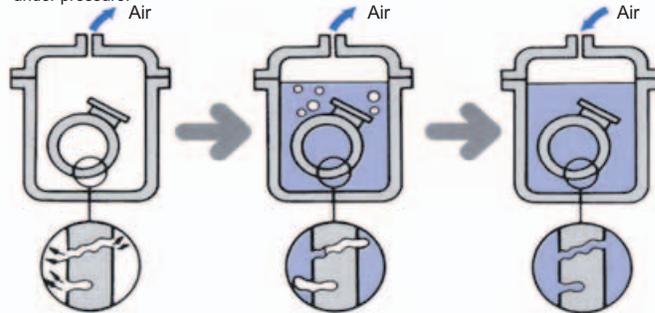
Using our comprehensive knowledge of impregnation technology, we can provide an ideal impregnation method to solve any leakage or porosity problem.

## I. Vacuum and pressure impregnation process

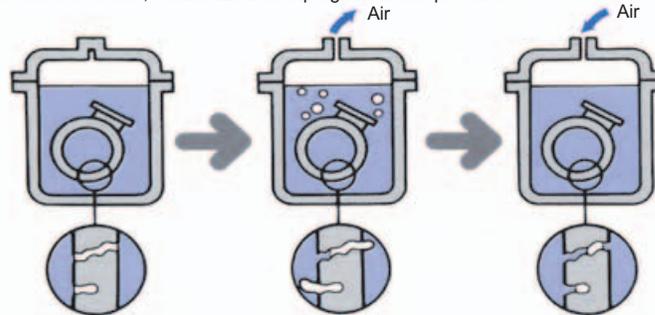
a. After vacuumization, immerse in solution, then impregnate under pressure.



b. After vacuumization, immerse in solution, then vacuumize again and impregnate under pressure.

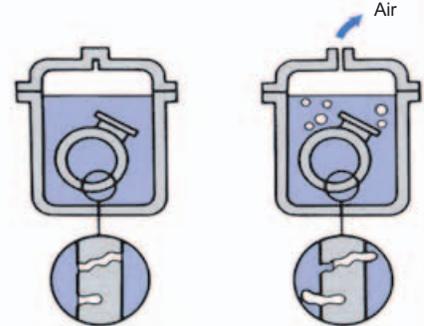


c. After immersion, vacuumize and impregnate under pressure.

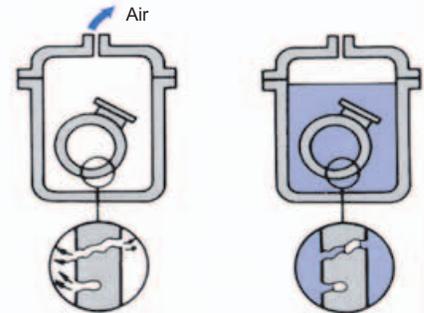


## II. Vacuum impregnation process

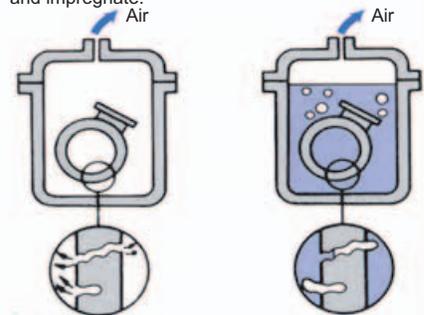
a. After immersion, vacuumize and impregnate.



b. After vacuumization, immerse and impregnate.



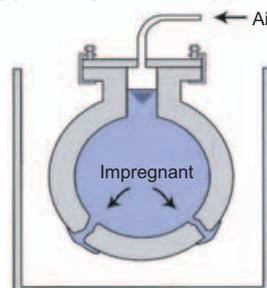
c. After vacuumization, immerse, vacuumize again and impregnate.



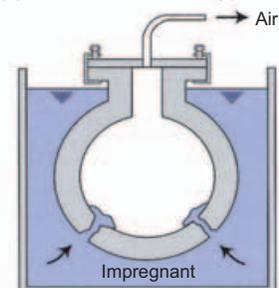
## I. Internal pressurization process and internal vacuumization process

These are effective for materials with relatively large volume and for users who do not have access to impregnation equipment.

(1) Internal pressurization process



(2) Internal vacuumization process



# We have a proven track record

The achievements of years of research are reflected in our advanced system. Our equipment may also be leased.

**Casting and sintering**

**Machining**

**Degreasing**

**Drying**

**Impregnation**

**Rinsing**

**Curing**

Impregnation is usually performed after machining and heat treatment. Since cutting oil and other cutting enhancers adhere to the surface of the workpiece and may even penetrate defect interiors, these materials should be removed by dry-heating or rinsing.

Washed workpieces are dried at high temperature in order to remove rinsing agents from defect interiors. If workpieces contain iron or other easily corroded substances, they should be immersed in an anticorrosive agent after degreasing and rinsing, then dried.

Workpieces are placed in an impregnation tank, the internal pressure of which is reduced. An impregnation solution is poured into the tank, which is pressurized with compressed air or gas. The impregnation solution is thus induced to penetrate defects under pressure.

The impregnated workpieces are transferred to a rinsing bath and washed with warm or cold water and a rinsing agent or a solvent.

Workpieces made of material that is easily corroded or likely to discolor are subjected to anti-corrosive treatment with chemicals. Hardening methods are: 1) allowing to stand; 2) blow-drying with hot air; 3) immersing in hot water; and 4) heating under pressure.

**New Power to the Future**

**chuhatsu**

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