



Vacuum Impregnation Plant

Outstanding Features for Better sealing with+ AB707 Sealant

- Sealant in monomer acrylic base.
- 100% Solid thermosetting sealant.
- Balanced viscosity ensure deep penetration.
- Will not bleed out. Voids remain filled during polymerization, producing a virtually indestructible seal.
- Cured AB707 is resistant to fuels, oils, alcohols, glycols, solvents, salts, mild acids and freons.
- Completely uninhibited by copper base alloy.
- Resist against temperature upto 450° c. The sealant will not repute when the casting is subjected to extreme thermal or physical shock.
- Resist hydraulic pressures upto 10,000 P.S.I.
- Will not discolor or distort parts, not it will affect established critical tolerance of machines parts.



Basically in diecasting process, there is bound to be micro porosity. Even after thorough process control, One cannot eliminate the porosity in casting, There are 2 type of porosity.

Gaseous Porosity : is a result of gas being enclosed in the casting during molten metal filling operation. It has 3 main Causes : air, vapour or burnt spraying agents.

Shrinkage porosity : is a result of improper solidification of metal in diecavity. It is mainly caused by inproper die design such as airvent sizes & gating.

Enclose Porosity Blind Porosity Through Porosity



Outstanding features for low cost and ease of "inplant" operation of AB707 Sealant.

Aswin AB707 Sealant : Polyfunctional Methacrylate Monomer. It has excellent washability without the resin being left on the component. For curing the impregnated castings it is to be heated to 90° c in hot water for the polymerisation of the resin within the metal

The range of Aswin AB707 resin take just 2 to 3 minutes when heated to 90° c and it take just 10 minutes for the full polymerisation.

- Extremely stable.
- Biodegradable & non injurious to human body.
- Low viscosity and high polarity ensure deep penetration, low material consumption and consequently, a lower cost per unit.
- Does not emit disagreeable odour and therefore should not required any special ventilation.
- Provides quick positive cure for short cycle operation.
- Parts are ready for testing and can be used immediately after drying.
- Ensure a permanent seal and will last for the life of component.
- Shelf life 15 months, if catalyst is not added.



Late Mr. Babubhai P. Patel



Historic Background

Aswin Enterprise was started as a small scale industrial unit in 1973 by Late Mr. Babubhai P. Patel He. was a small time entrapreneur, with high business ethics and morals. Hardworking & Innovative by nature, he involved his 2 sons Ashwin & Naresh to develop the product & Procedures.

The technology was enhanced in Germany and after lot of research & development, Aswin Enterprise was able to develop the impregnation formula to Successfully cater to various industrial application.

High level of integrity and hard work in marketing placed Aswin Enterprise to cater to industries all over the country.

Now, the company has over 205 impregnation plants and More than Thousand of satisfied customers.



1 DRY VACCUUM :

The charge basket is lowered into the autoclave, wherein the charge basket is subjected to a high vacuum. Simultaneously the reservoir is subjected to a similar vacuum. (-760 mm. of Hg.)

2 RESIN TRANSFER

The Sealant is transferred from the reservoir to autoclave.

3 IMPREGNATE / WET VACCUUM :

The vacuum in the autoclave is maintained until the components are thoroughly impregnated. Then the valve is opened to return the autoclave to atmospheric pressure, further forcing the sealant into the porosity.

4 RESIN RETURN :

The autoclave lid opens and the charge basket is removed. A vacuum is generated in the reservoir and the sealant is transferred from the autoclave back into the reservoir.

The subsequent treatment cycles follow :

Drain	Wash	Cure
With the basket hoisted over the drain station, the low viscosity sealant drains quickly and is returned to the autoclave.	The Components are washed in water at room temp. to remove residual sealant from the component surface.	Finally, the process basket is lowered into water maintained at 90° deg. C. for 10 minutes allowing the sealant to polymerize. The components are now ready to use.





Product Composition

Aswin Sealant AB 707
Polyfunction methacrylate monomer

UNCURED PROPERTIES

Colour	Clear, Pale Straw Coloured
Viscosity at 25 deg.	31±1
Flashpoint (PMCC) deg. C	> 150
Specific gravity at 25° C	1.004-1.006
Odour	Mild
Flourescent	Yes
Gel tie at 90° (0.2% AZDN Catalyst)	Approximately 3 minutes
Shelf life.	Indefinite under recommended Operating condition

Meets with the specification : IS -12799 - 1989

Application

- Water & Fuel Pumps ● Gas & Steam Fittings
- Plastics Moulds ● Hydraulic Systems
- Gear Housings ● Fuel System ● Engines
- Powdered Metal Parts ● Carburettors
- Compressors ● Water Meters
- Refrigeration Components ● Vaves
- Truck & Railway Brake Parts
- Pneumatic Systems
- Heat Exchangers Aircraft & Aerospace Parts, ETC.



Introduction :

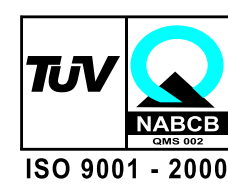
As a matter of fact, value addition to metal parts by machining, handling and assembly costs more. This value is lost when a metal part is scrapped because of porosity and leakage.

Actually impregnation costs are a small fraction of the cost of remelting, recasting, remachining and part overruns. Impregnation allows the manufacture to save time, money, energy and ensure quality by salvaging parts which would otherwise have to be rejected. The elimination of scrap and rework substantially increases productivity. In addition, 100% impregnation of metal parts sometimes eliminates the need for expensive leak testing and often results in dramatic reduction of field failure.

Because of proven effectiveness and economics of vacuum impregnation, many engineers specify use for all types of metal parts that must contain liquids or gases under pressure. It is now common for impregnation processes to be incorporated directly into production flowcharts to ensure quality, rather than to be used strictly as a salvage operation.

To seal the porosity in the casting, vacuum impregnation process is developed. Modern impregnation technology permanently seals the porosity. Vacuum impregnating sealant AB707 penetrates into the casting pores at elevated temperatures; by polymerization process and thus seals the Micro porosity. There after it solidifies by filling Micro porosity making the component pressure tight.

Parts are not only sealed for pressure application but also allows plating for finishing as bleeding of plating solution eliminated.



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