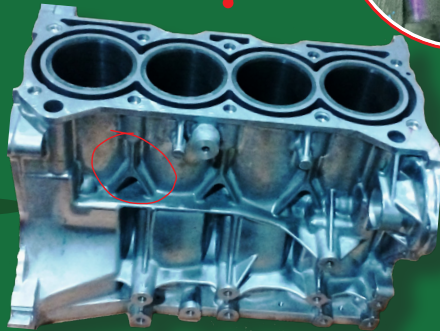




Dr. Resin

Worried what to do with
POROSITY AND LEAK PATHS
formed During **CASTING PROCESS?**

Get it **IMPREGSEALED!**



Are you facing
**MACHINED
COMPONENT
REJECTIONS**
during
Leak Test?

**VACUUM
IMPREGNATION TECHNOLOGY**
is the right solution to save time,
resources and can give a better
perspective to your **COST EFFECTIVE
CASTING** process.



Dr. Impregnator

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**APPROVED GLOBALLY
TRUSTED WORLDWIDE**

Seal it with TSP

WORLD'S TRUSTED IMPREGNATION SEALANT



SPECIAL IMPREGNATION SEALANTS

Our impregnation sealants are one of the most effective solutions to the universal problem of porosity in castings, powdered metal components, and electronic components. These sealants are used to seal the micro-porosity leakages in metal castings, sintered parts, plastic electrical connectors, wood etc. Most section of industries worldwide are our customers and they Impregnate parts like Aerospace components, Air compressors, Automotive cylinder heads and blocks, Electrical / Electronic connectors, Food

processing equipment, Filtration equipment, Fuel supply systems, Hydraulic pumps/ valves, Process control equipment, Transmission housings, Wheels, Power brakes, thin walled die castings, Powder metallurgy products, Gas and steam fittings, Plastic moulds, Instrumentation meters and valves, Refrigeration components, Truck and railway brake parts, Castings for hydraulic control, Heat exchangers, Ceramic parts, Builder's hardware, Aluminium compressor castings.

TSP RANGE OF IMPEGNATION SEALANTS

Today's demanding production techniques and the trend to create lighter alloys of aluminium and magnesium has increased the incidence of micro porosities in metal casting. The world has realized that impregnation allows for on time deliveries by reducing production and assembly downtime. This has made, impregnation techniques an accepted process to the foundryman and Technology specified by the design engineer.

TeknoSeal TSP range of sealants compliment vacuum impregnation technology worldwide and continue to lead the industry. Our sealants are a cross linking mixture of mono and polyfunctional acrylates and methacrylates. It does not contain any Halogens. Solvents or PCBs. Further, our sealants

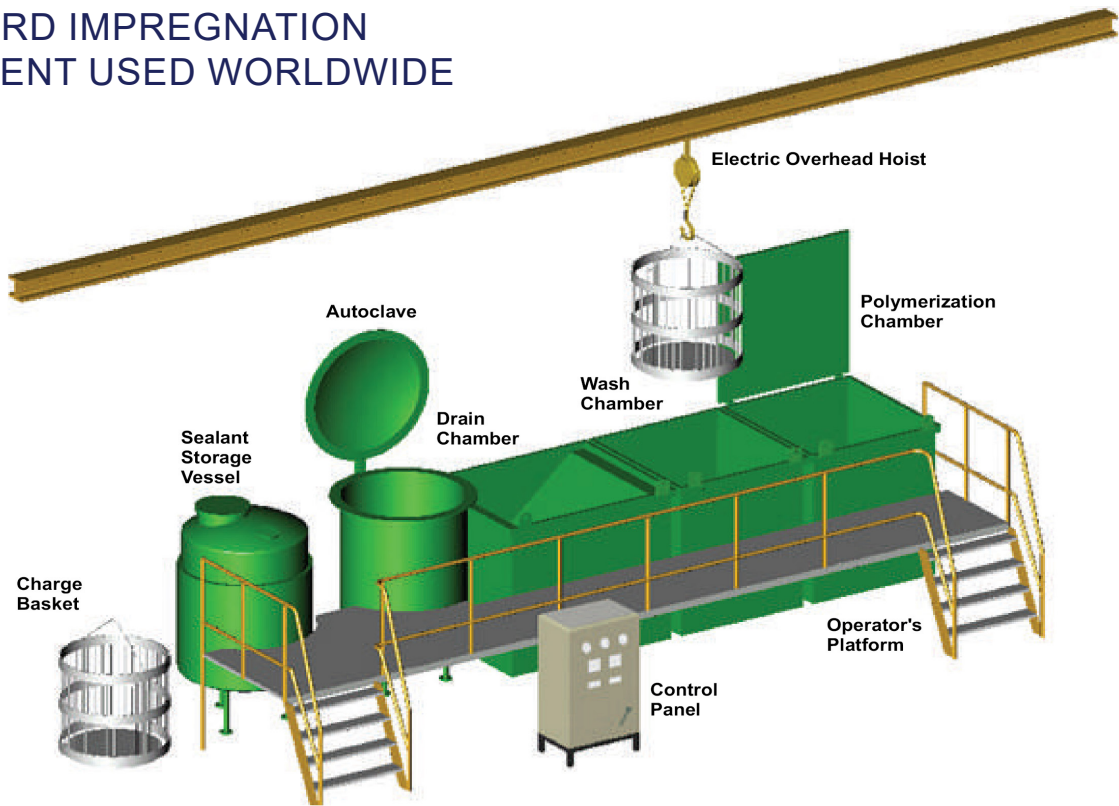
are designed to have the perfect balance of viscosity for effective penetration of porosities, and to achieve excellent adhesion to the inner walls of porosity ensuring a robust seal. All TeknoSeal sealants are environmentally friendly, containing no toxic substances.

Exhaustive trials in various demanding applications show that impregnation finds wide applications in metal castings, plastic connectors, sintered parts and other porous materials, like wood etc. It is suitable for use in both large batch and lean manufacturing applications, producing consistent high quality performance, whatever the size or nature of the components being treated.

SPECIAL IMPREGNATION EFFECTS OF TSP SEALANTS

- 1 VERY BALANCED VISCOSITY**
Coupled with high degree of penetration and excellent adhesion properties to provide optimal sealing performance for both micro and macro porosities
- 2 TOUGH, FLEXIBLE, DURABLE & RESILIENT**
In cured state offering resistance to high temperature, chemical and pressure resistance and vibrations.
- 3 OUTSTANDING POROSITY FILLING CAPABILITY**
On account of low shrinkage properties.
- 4 EXCELLENT WASHABILITY**
Ensures that components of complicated design do not become contaminated with polymerized sealant, thereby eliminating the need for additional machining.
- 5 STABILITY**
Under high vacuum allows for quick vacuum cycles giving low cycle times.
- 6 HEAT RESISTANCE**
Show excellent heat stability even at elevated temperatures.

STANDARD IMPREGNATION EQUIPMENT USED WORLDWIDE



TSP 99: HIGHLY COST-EFFECTIVE SOLUTION TO POROSITY

TSP99 is not only chemically and physically durable but it also performs well in the environment and conforms to the environment pressure conditioning test as specified in US MIL - I - 17563, Revision C and UL-87 standards.

TSP99 is a thermal heat cure methacrylate Impregnation sealant. It has excellent washability and requires no afterwork, even with complicated castings of intricate design. It has very high temperature stability with a working temperature range of -55°C to + 200°C. Castings which are impregnated with TSP99 possess very high pressure resistance, equal to the strength of the parent metal. TSP99 shows very good chemical resistance against petrol, motor oils, hydraulic fluids, antifreeze, gases and diluted acids.

STANDARD SPECIFICATIONS SHEET OF BATCH TYPE

| Sr. No. | Dimensions of charge Basket (mm) | Maximum Charge Weight (Kgs) Ferrous | Floor Space L x W (m) |
|---------|----------------------------------|-------------------------------------|-----------------------|
| 1 | φ325 x 400 ht. | 300 | 5.5 x 2.50 |
| 2 | φ520 x 550 ht. | 400 | 6.60 x 3.00 |
| 3 | φ700 x 700 ht. | 500 | 8.1 x 3.25 |
| 4 | φ850 x 700 ht. | 600 | 9.25 x 3.75 |
| 5 | φ1000 x 900 ht. | 1000 | 10.0 x 4.1 |
| 6 | φ1100 x 1100 ht. | 1100 | 10.5 x 5.10 |
| 7 | φ1300 x 1300 ht. | 1600 | 11.8 x 5.65 |
| 8 | φ1450x 1450 ht. | 1700 | 12.5 x 6.00 |

APPROVALS & CERTIFICATIONS

Our range of Sealants are world approved by most major automobile manufacturers and also conform to the stringent quality standards and specifications such as, UL-87 (Under Writers Laboratory - USA), US-MIL 17563 rev C (US Military specification for Impregnation Sealants), Llyods Register of shipping and the test were conducted at ARAI (Automotive Research Association of India and also NSF. Our quality management system is certified as per EN ISO 9001:2008. Environmental Thermal & Pressure Conditioning tests conducted as per US MIL 17563 C.



SAFEGUARD YOUR ASSETS USING VACUUM IMPREGNATION

A few of the typical applications of Vacuum Impregnation using Special Impregnation Sealant TSP99 are listed below. Although there are several applications of the process, only a few of the more common applications are given. For further details please contact us and our application engineers shall be too glad to answer your queries.

Even minor leakage of gases, air or liquid can cause entire batches of production to be rejected. Impregnation as a de rigueur procedure, therefore, has received easy and complete acceptance among the people who are primarily responsible for the quality of products. Industries all over the world have experienced huge machining losses because leakages have been discovered after a casting has been machined. In such cases there is no choice but to scrap the casting. And if a casting is scrapped after it has undergone an expensive machine process, there is no way which that cast can be recovered. The solution is mandatory, pre-emptive impregnation of all castings so that QCD considerations may be well taken care of. It is, in contemporary business, the smartest way of ensuring a healthy consistent bottom line for all users of leak tight casting.

Impregnation systems find application in today's world driven by QCD consideration in all industry segments that use casting, plastics, sintered metal parts, powder coated and chrome plated parts. The most obvious examples of industries:



AIR
COMPRESSORS



AEROSPACE
COMPONENTS



HYDRAULIC
PUMPS/VALVES



FILTRATION
EQUIPMENTS



FUEL SUPPLY
SYSTEMS



PNEUMATIC
COMPONENTS



TRANSMISSION
HOUSINGS



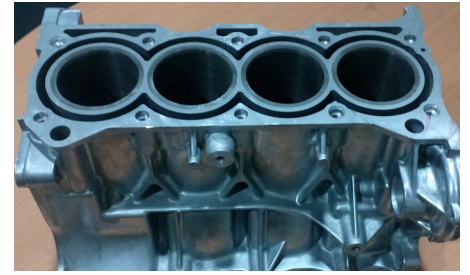
FIRE FIGHTING
EQUIPMENTS



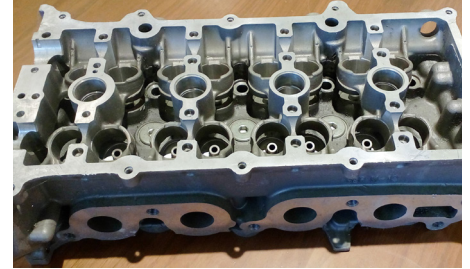
MANIFOLDS
& BLOCKS

Impregnation with TSP99 can be performed on casting before or after machining. If porosity is accessible before machining, as in the case of powdered metal parts and some castings, it may be of benefit to impregnate at that time. For some cases it may also be done after full machining.

It has been proven to be more cost effective to impregnate rather than to scrap castings. If a casting has had expensive machining processes there is no way to recover that cost if the casting is scrapped. It has been calculated by engineers that impregnation is a small cost when recovering expensive components.



CYLINDER BLOCK



CYLINDER HEAD

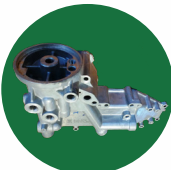
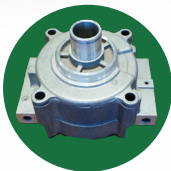


CAM CARRIER



R CASE

OTHER CASTINGS



TeknoSeal

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