

TEKNOSEAL

Seals Better Forever...

Newsletter

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Leading Global Automotive Foundry Manufacturer relies on TEKNOSEAL

Teknoseal supplies a complete turnkey solution for vacuum impregnation of castings to one of the world's leading casting manufacturer for the Automotive Industry.

In the end of the second quarter this year, Teknoseal, partnered with a Leading Automotive foundry and gave them a complete turnkey solution for vacuum impregnation of their castings. The company supplies castings to one of the world's major air-conditioning compressor castings manufacturer for impregnation of their air conditioning parts like cylinder blocks and covers and is a part of the global automotive supply chain, with end customers like Ford, GM and many more.

The machine comprised a fully automatic vacuum impregnation system, equipped with rotary drain and wash system and incorporate the latest technology from Teknoseal. The customer is extremely happy with the results they are achieving from this machine with very high recovery

rates for castings leaking with Helium leakages, having very fine leak rates of as low as 10^{-4} cc/min of helium leakage.

We, at Teknoseal, are proud of this achievement which was made possible by the Teknoseal team, based upon their extensive knowledge base and experience in Vacuum Impregnation technology, backed by our world renowned and approved sealant TSP 99. The customer is satisfied with the Teknoseal TSP 99 sealant, which has eliminated their existing problems of resin residues as well as post impregnation reject rates.

Once again, the advantage of the synergy between a good sealant and process knowhow and expertise possessed by Teknoseal came up as a winner against international suppliers.



Do You Know!



Mexican Pyramids

Long before the Spanish invasion, Mexico had its own history of many ancient civilizations. The rich Mexican history has always appealed people across the world. Of which, Mexican Pyramids have been the most notable.

Erected in 5th century BC, these pyramids were built to pay homage to their planetary and animal gods. There are amputee number of monuments and relics which stand evident to the magnificence and grandeur of the Mexican culture to this day. The architecture of these monoliths is done so intricately and with precision, inspiring awe among its visitors.

Some of the most famous pyramids are Temple of Kukulcan (Chichen Itza), Pyramid of the Sun (Teotihuacan), Pyramid of the Sun (Teotihuacan), and Pyramid of the Magician (Uxmal).



Teknoseal Continues its Quest to SE Asia Trains Industry Professionals on Impregnation



In the month of August 2017, Teknoseal team visited South East Asia and had conducted training camps at their distributors' premises as well as at their end customers. This way Teknoseal, succeeded in taking the impregnation process to the doorstep of the customer.

Training modules were arranged for the officials from various departments like production planning, quality control and laboratory (for the quality check procedures). Customers from the Industry included automotive majors and their supply chain from the motorcycle as well as the car manufacturing industry.

Teknoseal customers were briefed on the impregnation process and on porosity in metal structures. It must be highlighted that behind the success of any impregnation line, there is a great role played by the correct process, process control, and finally a good sealant working in tandem with the latest state of art equipment. Teknoseal Engineering Solutions offers its clients all these requirements in one turnkey package and this is the secret of the success of every impregnation line and process set up by the Teknoseal Team.

The training session also included the advantages of Vacuum - Pressure Cycle in comparison to Vacuum Impregnation and this was explained in detail and its importance related to sealing of castings with very fine leakages that are detected only with helium. Impregnation process parameters were highlighted and various nuances about the impregnation process, Pressure and Vacuum cycles process were explained in detail at the training camps.

The classifications of porosity in castings were explained and the importance of casting input conditions for impregnation were explained in detail. Basket packing and orientation of castings for best results were explained. Further, the clients were explained in detail, test procedures for TSP-99 sealant, maintenance of process parameters for process control on the machine eg. pH of hot

water, etc., and degassing process for the optimum quality of sealant was also explained practically on machine.

The procedures and testing were demonstrated with the help of live video presentations and customers got a very good training on the process.

The videos of graphical presentations of the fully Automatic Machine / Premium Plants and Basic Plants were shown and explained in the session.

A hands-on training on the Electrical/ Mechanical Process was also given to some of the officials for their better understanding. Mechanical maintenance, Electrical maintenance, Daily, weekly, Monthly, Quarterly maintenance and check list Details, Impregnation Process details, Machine Start-Up and Shut Down process etc. Training was given in detail to the operators and the maintenance team of customers.

Practical expertise and knowhow have been a forte of Teknoseal experts, which was imparted to our customers, once again leaving behind an impregnation user, both satisfied as well technically updated.





SAFEGUARD YOUR WOOD

WITH

TSP 99



Wood is a porous material and has a lot of crevices. Germs and bacteria are formed in these crevices and porosities. When water or moisture seeps into these porosities, the germs and bacteria lead to fungal growth and eventual wood decay. Thus, wood rots if exposed to water and humidity for extended amount of time.

Impregnation of wood using TSP99 Sealant can prevent this and makes wood usable in various applications.

Your Wood IMPREGSEALED

Wood is a versatile material having applications in industries like Pharmaceutical industry (Packaging), Marine industry (Ship Building); and waterproof applications in industries like Building and Construction for kitchen and bathrooms.

Impregnation of wood using TSP99 Sealant can prevent this and makes wood usable in various applications.

Water Resistance for Marine Applications

TSP 99 is used for Marine Plywood in Ship Building. Marine plywood is treated with chemicals to kill germs and thus to enable its usage in ships and bathrooms. As an alternative to this usage of chemical, wood impregnation process using TSP99 Sealant is done.

Wood impregnation seals the crevices and porosities and entraps all existing fungi while preventing bacterial growth. Our sealant TSP99 is water resistant and is not affected by long exposures to water or moisture. It is the best way to give marine and water resistance to wood.

Improve Machinability

TSP 99 is used for wooden door knobs. It is also used for improving machinability of wood and achieving smooth finish for objects and decorative pieces. It gives them body and solidity, along with enhancing the robustness and longevity of the showpiece. Impregnation provides a clean surface for wood, thus making it ready for high quality lacquering.

Avoid Fungal Growth for Hygiene and Health Applications

TSP 99 is used in Pharmaceutical Industry for Wooden Palletization. Medicines which are exported over long sea travel are packed in wooden pallets, which must not have any contaminants such as fungus or bacterial matter. For safety and hygiene reasons, it is very important that the wooden pallet is free from fungi and bacteria. This purpose is served by the process of impregnation on the wooden pallet whereby all crevices and porosities are sealed using TSP 99 sealant which does not allow any fungal growth.

Applications in Home, Fencing and Ship Building

TSP 99 is also useful in Home Building and Construction. Marine plywood is generally used in modular kitchens and bathrooms. As it has a lot of moisture goes into the crevices which cause a fungal growth. We can impregnate this plywood to make it water resistant and thus prevent it from swelling. Thus it finds applications in building of ships, boats, canoes, oars, etc.

TSP 99 can be used as an effective replacement to Tanalith treatment for wooden fencing columns. As this impregnation material is not poisonous, using it in wooden fencing columns gives the required environmental resistance to wood, while preventing the probable hazards.

Thus, wood impregnation is an important and useful process in most of the applications of wood industry.

#Impregsealed!





Impregseal Your Plastic Moulded Connectors with Teknoseal TSP 99

With the current trend of increasing use of plastics in automobile for weight reduction and increased electronics in vehicles, impregnation of electrical wire harnesses and plastic moulded connectors have gained much importance.



Wire harnesses are impregsealed against porosity. These wire harnesses are of different lengths, contain wires of different thicknesses, and are made by Tier 1 suppliers such as Delphi, ATPI, Siemens, Group Dekko, Sumitomo and Federal Mogul and many more.

The Reason we do it

As we know almost all molded or cast products consist of porosities, which contains micro voids. Impregsealing your plastics using TSP 99 completely fills these openings to moisture proof. The procedure is also called vacuum impregnating.

When it first emerged in the 1940s, porosity was sealed with sodium silicate and styrene-based resins, and it was mainly used to mend metal castings which were found to have "leakers" in leak-test operations. Shortly after the commencement, the method was used for preventing corrosion in metal castings, powdered-metal parts, and other porous metal elements.

Now, the process of prevention of corrosion for other porous metal component such as plastic composites and wood, were being done with

potting materials. But by the 1980s, more easily adaptable and flexible resins came to the market for sealing these products.

Wire electrical cables and individual insulated wires tend to have porosities within rubber and plastic insulation coating. When few insulated wire are adjacent to each other within wire harness, there are chances of sparking or short circuit between two adjacent electrical wires due to porosity in the insulation material. Hence it is an accepted practice to impregnate wire harness to avoid the situation.

Porosities in harnesses consist of micro porosities within the insulation coating. These porosities could be susceptible to trapping moisture that could lead to sparking and short circuit.

Low-viscosity impregnation sealant TSP 99 is effectively used to fill and everlastingly seal these minute openings in harnesses, which will prevent further corrosion and ensure long-term performance. TSP 99 requires heat up to 90°C to cure and this is a thermo-seal sealant.

The sealed up resin is a polymer that is flexible and durable. It would never crack due to thermal expansion and has the power to endure common solvents such as glycol, oils, caustics and high uninterrupted operating temperatures up to 250°C.

A procedure can seal the entire harness or just the tips or the ends. When the entire harness is sealed, it fills up the holes and gaps where wires touch the connectors or grommets.

The process involves impregnation of the wire harness vacuum impregnation machine. The wire harnesses are submerged into the sealant part and under the application of vacuum. The porosities are sealed using the Teknoseal TSP 99 sealant. After this impregnation is it is cured 90°C in hot water and impregnation sealant inside the porosities polymerizes and porosities are sealed.

The process of impregnation is very much needed in connectors. In the connectors, while the socket is made up of plastic, the internal pins are of copper and aluminium etc. In order to avoid the leakage path in the interface between the metal and plastic, impregnation is used, thereby making the components leak proof.

