Bringing comfort to your car
Civil engineer uses polyurethane foam as insulation for vehicles at his workshop

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ONE of the selling points of luxury cars is the quiet, peaceful ride they offer. Because of this, the cars come with a hefty price.

But what if you want to add this comfort feature to a lower-end or older car?

Car insulation comes in a variety of forms, and if you plan to do this yourself, make sure you use materials specifically designed for cars or seek the help of a plastic engineer.

Otherwise, contact a professional who can insulate the car for you.

Sadly, there are hardly any such professional services in the country unlike other car-related services such as painting, knocking, upholstery and repairs.

That was so until civil engineer Dr Mohd Fauzi Ramli started his modest operations a little less then a year after returning from Europe with years of experience in the polymer industry there.

The process of injecting polyurethane is not new but Dr Fauzi has created his own technique which doesn't require elaborate processes.

All he does is pump resin polyurethane foam into the chassis and other hollow sections of vehicles by heating up the poly-urethane resin.

Now Westside Acrythane Polymers, located in Jalan 3, Taman Seri Merdeka, Ampang is getting customers from as far as Singapore.

"Vehicles there are more exposed to wear and tear of the trunk and undercarriage because it is an island and the air around the city contains sea water moisture which is bad for vehicles," said Dr Fauzi who runs the business with his partner Azizi Ali.

Fauzi worked for more than 10 years as a civil engineer in Philadelphia and Atlanta, Georgia before moving to Europe to endear him with the new "miracle" resin.

He spent six years in Europe, working as a polymer engineer in Liquid & Plastic and Coroles in the UK, Jefco in Nice, Mathy's in Belgium and Weirigg in Germany before moving back home to Singapore and subsequently to Malaysia where he teamed up with mold designer Azizi.

The two met while they were working on a PLUS highway project to elevate depressed areas on the highway.

They spent countless hours trying to perfect technique.

"You won't be able to turn a hand-me-
down ride into a luxury vehicle, but you can significantly upgrade the comfort in any car by injecting polymer into the cavities of your car parts," said Dr Fauzi.

"If you drive a noisy car that lets lots of sound in, or if your car vibrates excessively, we can insulate your car like you do your house at a very affordable price," added Azizi.

A mould designer for the metal stamping industry for 15 years, Azizi who holds a degree in town planning from Universiti Kebangsaan Malaysia is in charge of operations while leaves the research and development of the technique to Dr Fauzi.

"You send your car for us to assess the holes in the car due to ware and tear, rusts and acidic water attack. We treat the gaps before injecting the chemical resin," explained Azizi.

"The whole process will take just about two hours and we give you a 50-year-guarantee," he said.

In the process, the injected foam expands and hardens and this would strengthen the part of the chassis and other hollow sections of the car.

"Charges range between RM500 and RM1,000 depending on how bad is the wear and tear on your car. The more holes it has, the more it costs," said Azizi.

Besides reducing sound and vibration, Dr Fauzi added that polymer inside the hollow sections of the car provided a better cushion in cases of accident as the foam would act as a barrier.

"The foam in-between the cavities and the trunks will expand and become rigid close cell whereby not even air can enter," he said, adding the foam will stay intact for about 50 years.

**What is polyurethane?**

Polyurethane is a unique material that offers the elasticity of rubber combined with the toughness and durability of metal. Because urethane is available in a very broad hardness range (eraser-soft to bowling-ball-hard), it allows the engineer to replace rubber, plastic and metal with the ultimate in abrasion resistance and physical properties.

Polyurethane can reduce plant maintenance and OEM product cost. Many applications using this ultra-tough material have cut down-time, maintenance time and cost of parts to a fraction of the previous figures.

Urethanes have better abrasion and tear resistance than rubbers, while offering higher load bearing capacity.

Compared to plastics, urethanes offer superior impact resistance, while offering excellent wear properties and elastic memory.

Urethanes have replaced metals in sleeve bearings, wear plates, sprockets, rollers and various other parts, with benefits such as weight reduction, noise abatement and wear improvements being realised.
Part of the process: Azizi (top pic) inserting a tube into the car chassis before beginning the insulation process. The polyurethane resin foam that leaks out (right pic) indicates there are holes in the chassis.