

CUT & DRIED

This month, we take a closer look at the energy-saving **CADIF IRDHT Plus**, the infra-red, high temperature drying system for spraybooths from Eco Repair Systems.



What is it?

The CADIF Infra-Red Drying High Temperature (IRDHT) Plus is claimed to be the only infra-red system that can be used for both the spray and bake cycles, eliminating completely the need to burn gas or oil. The IRD panels fit on the booth walls, while the HT Plus panels are located on the ceiling.

The IRD wall panels are available in eight different sizes and are 28mm deep, which means they do not compromise the dimensions of the booth. The HT Plus panels come in a variety of shapes and dimensions to fit any existing or new spraybooth.

What does it do?

IRD Plus dries high solid paints quickly and efficiently by generating thermal energy from innovative, electrically powered radiating panels. Drying takes place by bringing the radiating panels up to their maximum temperature, which heats up the vehicle and the air inside the booth, enabling the paint to bake. The IRDHT Plus radiates heat by means of long-wave diffused infra-red rays. This heats the paint and cures it from the inside out, allowing solvents to escape. To prevent the solvents from reaching abnormally high concentrations, a forced ventilation system automatically operates every 10-15 minutes, renewing the air inside the booth.

In addition, the IRDHT Plus system can be operated in four separate zones to give maximum flexibility.

How does it work?

The ATEX compliant CADIF technology transmits heat directly from the IRD panels to the vehicle without the usual losses expected when using hot air systems. These panels can reach a maximum operating temperature of 130° C, while the HT Plus panels can achieve a maximum temperature of 350° C. The combination of the two technologies produces a far more energy efficient system than traditional gas/oil burners.

Temperature and power can be adjusted according to the external air temperature and paint product used, and the system's intelligent monitoring systems regulate the temperature of the panels to maintain an optimum painting heat.

Anything else?

An operating cycle (preheating, painting and curing) uses 25kWh of electrical power on average, compared to 250kWh for gas/oil, which is about 10 times less thermal power than the burner in a conventional oven using fossil fuels. Each painting cycle with the system will cost approximately £2.50, which could save £6-18 per cycle depending on the current burner and type of fuel used. This could equate to a three-year return on investment, with repayments no greater than the energy savings made by switching to this new technology if an interest-free loan from The Carbon Trust is granted.

IRDHT Plus can be installed in about two days, subject to site

VERDICT

Neil Berryman, Managing Director, Minimec Garage Services, installed the CADIF IRDHT system into his two booths 18 months ago and has been reaping the energy saving benefits ever since.

'The main reason we chose the CADIF curing system was the huge energy savings it offered. Last summer, our gas bills reduced to zero; we only had to pay the standing charges. It's harder to quantify the effect on our electricity usage because we've just come to the end of a fixed price deal. However, we've calculated we are saving around £1,200 a month and because we received Carbon Trust funding to purchase the equipment, it's completely self-funding.'

'The panels take up very little room in the booth so the space saving aspect also appealed to us, and they only took a day per booth to install.'

'In terms of training, we had half a day, then a further half-day the following week just to cement what we'd already learned. Now it's second nature to the technicians.'

'There's no mystery about it; the CADIF system is purely a replacement way of heating the booths, but one that drastically cuts energy costs and whatever we save goes straight on the bottom line.'

survey. No specific training is needed to operate the system, and the company provides all necessary instruction on how to use it.
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