

concerns and for firms working on behalf of third parties).

It enables a more rational planning and an easier scheduling of painting itself; since the cycle is extremely fast, painting removing can be planned within a short period of time, without losing production.

It hasn't got any limitations, either referring to the kind of paint (powder and liquid), or to kind of application or plant.

It can be used on all the kinds of supports (skids for the automotive industry, hooks for firms working on behalf of third parties, balances, frames and so on) built out of iron, steel, and for any kind of plant (small, big, manual, automatic).

Using the detaching agent does not involve extra working, does not pollute the decreasing baths and does not interfere with the usual management of painting. Adding all these features, makes the overall costs for paint removing really competitive.

Surely, it is above all an ecological technology, without any environmental hazard, however it is managed. The physical phenomena used in the process are ecological in themselves, it is therefore impossible to cause damaging emission, even in case of handling errors or uncorrect settings.

The gaseous emission due to the process are harmless, since what is emitted is nitrogen, that is an inert gas among the air components.

The painting waste are pieces of polymerized, thermosetting resins of easy disposal (usually special waste).

It is a physical rather than a chemical process; chemical reactions are actually totally missing (no output of toxic-noxious by-products).

It does not involve any risk for the operator, since there are no chemical reactions, and therefore no toxic and noxious fumes.



Such features have been leading many companies to choose cryogenic paint removing, both as the solution to their problems with paint removal and as paint removal service on behalf of third parties. This kind of activity is spreading with great success thanks to the already mentioned features of cryogenic paint removal, which can be summarized as follows:

- no damages to the supports,
- competitive costs,
- it is surely ecological.

FIG. 1

Shrinkage of different materials during the cooling stage with liquid nitrogen.

SUPPORTO = SUPPORT

VERNICE = PAINT

DISTACCANTE = DETACHING AGENT

FORZA DI TENSIONE = STRESS FORCE

FIG. 2

Manual paint removing plant with liquid nitrogen

- 1 SERBATOIO AZOTO LIQUIDO = TANK WITH LIQUID NITROGEN
- 2 GRUPPO VALVOLE DI SICUREZZA E INTERCETTAZ. MANUALE = GROUP OF SAFETY VALVES AND MANUAL INTERCEPTION
- 3 FLESSIBILE ACCIAIO INOX O LINEA COIBENTATA DI UTILIZZO N2L LIQUIDO = STAINLESS STEEL FLEXIBLE PIPE OR INSULATED LINE TO USE LIQUID N2L
- 4 VASCA PER AZOTO LIQUIDO IN ACCIAIO INOX SUPERISOLATA = SUPERINSULATED TANK OF STAINLESS STEEL FOR LIQUID NITROGEN
- 5 VASCA DISTACCANTE IN ACCIAIO, FERRO O PLASTICA = DETACHING TANK OF STEEL, IRON OR PLASTIC

FIG. 3

Semiautomatic paint removing plant

- 1 SERBATOIO AZOTO LIQUIDO = "STORAGE" WITH LIQUID NITROGEN
- 2 GRUPPO VALVOLE DI SICUREZZA E INTERCETTAZIONE = GROUP OF SAFETY VALVES AND INTERCEPTION
- 3 FLESSIBILE ACCIAIO INOX O LINEA COIBENTATA = STAINLESS STEEL FLEXIBLE PIPE OR INSULATED LINE
- 4 VASCA PER AZOTO LIQUIDO = LIQUID NITROGEN TANK
- 5 GRANIGLIATRICE = SHOTBLASTING MACHINE
- 6 VASCA DEL DISTACCANTE = DETACHING TANK

FIG. 4

Automatic paint removing plant

GRANIGLIATRICE = SHOT BLASTING MACHINE

AZOTO LIQUIDO = LIQUID NITROGEN

CARICO = LOADING

SCARICO = UNLOADING

TRASPORTATORE AEREO = OVERHEAD CONVEYER

DISTACCANTE = DETACHING AGENT