



NEW ELECTROSTATIC SPRAYING TECHNOLOGY KEMISTATIC PROCESS



NEW ELECTROSTATIC SPRAYING TECHNOLOGY

This new technology has been developed to spray electrostatically two component solvent free polyurea-urethane resins

Main problems needed to be solved :

- two component solvent free resins are **not electrostatically conductive**
- the only spraying technology known up to day is the use of **Two Component high pressure pumps**

These characteristics **do not allow electrostatic spraying of solvent free two component resins**

EXISTING COATING TECHNIQUES

TWO COMPONENT RESINS



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 coating of

concrete or
 coatings, but r
shapes like val
 The **loss** du
appearance o
not uniform,
 thin film (like



POWDER AND PAINT COATING



ing of powder
 melt the powder
coat small pieces
 pieces)

100 -120 μ
 - **Difficult**

2. Electri

- needs **sever**
- is needed
- 2 or 3 layers,
- needs a **dry**
- **Solvent is el**



one day
 inimum

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DRAWBACKS OF EXISTING ELECTROSTATIC SPRAYING TECHNOLOGIES

Powder coating

- Pipes protected against corrosion by epoxy powder **need a mechanical protection** to prevent mechanical damages to the powder coating
- This technique **cannot be applied on substrates other than steel** (like wood for example) – Protecting wood with fused bond epoxy powder is not possible, as during heating process to melt the powder a lot of pinholes are created in the powder epoxy film, due to the moisture of the wood which will change in vapor phase and create pores

Painting

The COV content of the paints, when drying, will create pinholes which will be an **entrance to the corrosive atmosphere**

This is why **many coats** are necessary for a good protection

- **This increases a lot the delay** to achieve the work
- The **protective performance due to the pinholes is much less than a pinhole free coating**

MAIN FEATURES of KEMISTATIC PROCESS

**Cold applied,
no heating necessary for curing :
no energy consumption**

**No limit in coat thickness :
from 30 μ up to 2 mm or more
in one single coat**

**NO COV :
no air pollution**

**Can coat any size of
equipment like large poles,
large structures, tanks**

**Quality of film :
NO pinholes detected
with a holiday detector
whatever the thickness
of the coat**

Can be used for a variety of applications :

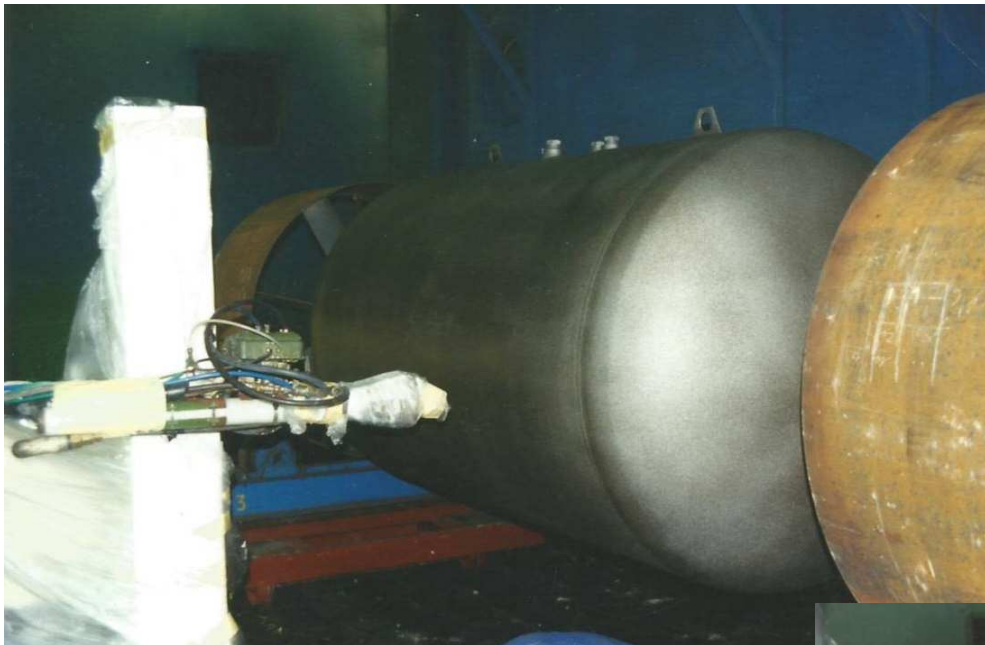
- . corrosion protection
- . electrical insulation
- . waterproofing and vapor barrier

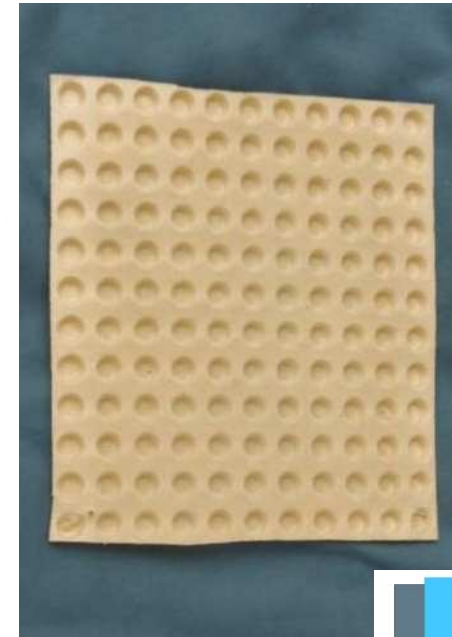
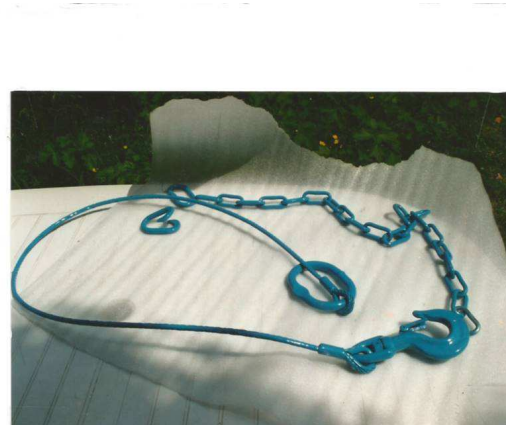
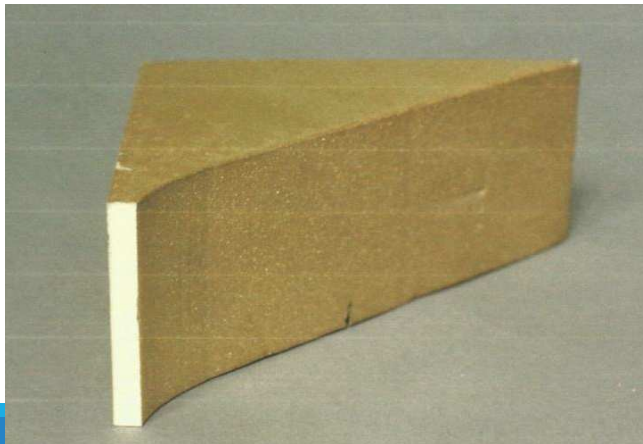
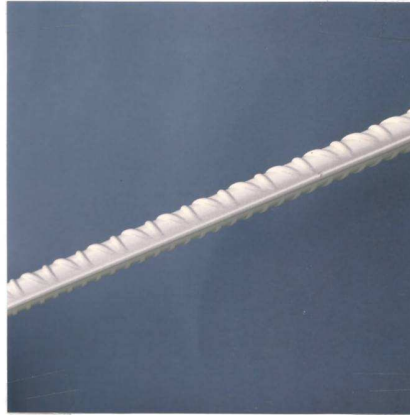
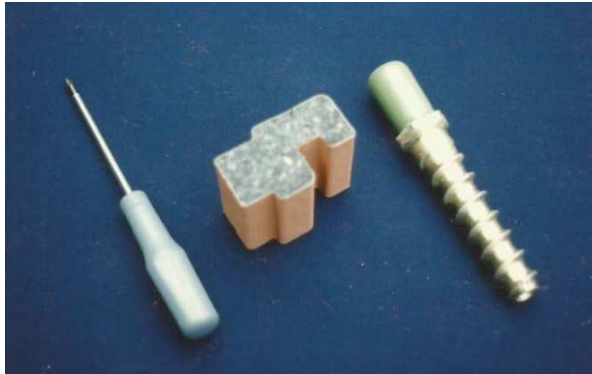
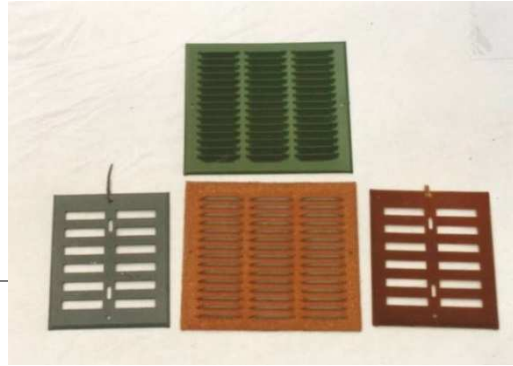
Can be applied on any substrate : steel, aluminum, galvanized steel, wood, EPS, fabric, carton etc...

LARGE POSSIBILITY OF AESTHETIC FINISHING :

- Lacquer
 - Natural stone appearance (like granite)
 - Metal appearance (like gold, aluminum, copper, etc..)
 - Flock finishing : velvet like finishing
- **This new kind of finishing is obtained by spraying electrostatically different kinds of solid particles (stone, metal, fibers etc..) which, applied on a wet surface, will stick to the resin and will give the wanted aesthetic finishing.**

Application KEMISTATIC Process





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8



FURTHER DEVELOPMENTS

New Electrostatic Spraying Technology (KEMISTATIC process)

This new technology allows new developments in the fields of :

- Non Ice coatings
- Heat conductive coatings
- Electrically conductive coatings
- Electromagnetic Shielding

CONCLUSION

New Electrostatic Spraying Technology

KEMISTATIC process for two-component solvent-free resin

MAJOR ADVANTAGES over traditional powder or paint systems

- **Completely pinhole free coating**
- **Any thickness applied in one single layer (from 30 μ to 3 /4 mm)**
- **Curing at room temperature**
- **Can be used to coat any equipment whatever the weight and size**
- **Application possible on any substrate, in particular steel or wood**
- **Any aesthetic finishing possible**



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