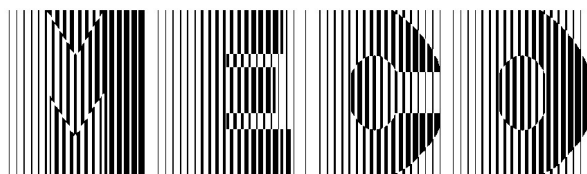


MECOSTAT[®]-3

Antiblock/Antistatic and Antifog Coating Agent for Plastics

Food Packaging and Technical Applications

MECOSTAT[®]-3/2382



General

MECOSTAT-3/2382 is a highly effective liquid coating material for the antifog and antistatic finishing of plastic surfaces as well as for improving slip properties.

The coating's resistance to temperature ensures that subsequent thermoforming can be performed without suffering any damage. Furthermore, the finishing of the film remains virtually unaffected by the stretching of the material during the thermoforming process.

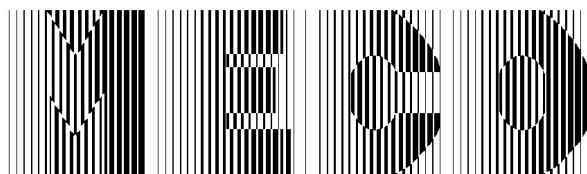
Areas of Application

Antiblock / Antistatic / Antifog finishing of

- films, sheets, profiles and thermoformed parts of all types (films 500 up to 1800 µm)
- packing films
- foils for transparent packaging

Typical Properties of the Coating with MECOSTAT-3/2382

- long term antistatic finishing for several years with reduction of the surface resistance as far as $10^9 \Omega$ at standard climatic conditions
- antistatic effect also at very low humidity (< 20%)
- strong adhesion of the coating to the plastic surface resulting in high stability against physical effects such as friction etc.
- the coating is temperature resistant resulting in unproblematic thermoforming without impairing the antiblock or antistatic finish
- excellent wetting properties on plastic surfaces resulting in excellent surface finishing even under difficult thermoforming conditions
- the slip properties of the plastic surfaces are improved considerably by the coating, therefore improving the stackability of thermoformed parts
- the blocking tendency of PET sheet is neutralized to a large extent
- **MECOSTAT-3/2382** replaces additives used to date resulting in no migration in to the packed material, no accumulation during recycling
- reduced costs
- striation-free highly transparent coating
- usable in the packing industry for foodstuffs according to EC/USFDA-Directives
- **MECOSTAT-3/2382** is high yielding and therefore keeps down costs of antistatic finishing
- unproblematic recycling of the coated plastics



Processing Directions

- the following processes are suitable for coating: immersion, felting, roller application, application by flexographic or gravure printing spray coating, rotor spraying coating (the appropriate processes depend on the application purpose)
- typical coating amount: 2 to 5 g per sqm (wet coating amount)
- If **MECOSTAT-3/2382** is applied on warm plastic surfaces, the surface temperature should not exceed 80 °C
- the coated surface must be completely dry before further processing or winding the sheet (if required, drying with warm air)
- depending on the application, a corona pretreatment is recommended (e.g. polyolefines and polystyrene)
- **MECOSTAT-3/2382** - coating agent is supplied as ready for use solution
- machine parts which come into contact with **MECOSTAT-3/2382** should be made of corrosion proof materials but not from copper, aluminium and their alloys
- a combination of **MECOSTAT-3/2382** with antistatic / antiblock agents (e.g. silicon derivatives) is not recommended because of possible reactions
- for detailed processing and safety information, please refer to the appropriate safety data sheets
- due to the large number of applications and processing procedures we would like to point out that corresponding tests have to be performed by the customer to make sure that there will be no incompatibility with the raw materials, additives and the processing procedures

Safety

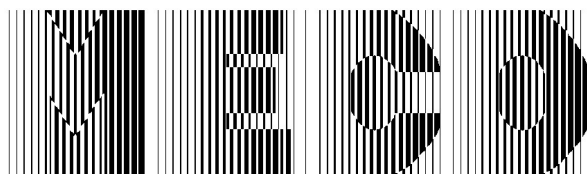
MECOSTAT-3/2382 as well as the raw materials contained in it comply with the appropriate EC-Directives on the antistatic finishing of plastics in food packaging.

MECOSTAT-3/2382 is environment-friendly and easily biodegradable.

Service

We offer comprehensive technical support with regard to not only the choice of the right type of material for application but also to the coating systems.

Our Application Technology Department is at your disposal for the design of optimal application processes as well as for preparing suggestions for adapting installations already in use.



Calculation of the consumption rate

consumption rate of MECOSTAT-3 per kg plastic

$$\text{consumption MECOSTAT per kg plastic [g]} = \frac{\text{coating rate/m}^2 \text{ [g]} \times 1000}{\text{sheet thickness } [\mu\text{m}] \times \text{spec. weight of plastic [g/cm}^3\text{]}}$$

coated sheet per kg MECOSTAT-3

$$\text{coated sheet per kg MECOSTAT [kg]} = \frac{\text{foil thickness } [\mu\text{m}] \times \text{spec. weight of plastic [g/cm}^3\text{]}}{\text{coating rate/m}^2 \text{ [g]}}$$

Typical value of spec. weights of different plastics

The exact specific weight depends on both, the plastic formula used and on the additives used. Therefore, the given values are only approximated values.

APET	: 1.35 g/cm ³
PVC	: 1.42 g/cm ³
PP	: 0.93 g/cm ³
PETG	: 1.17 g/cm ³
LDPE	: 0.95 g/cm ³
HDPE	: 0.92 g/cm ³
PS	: 1.10 g/cm ³
ABS	: 1.12 g/cm ³
PC	: 1.20 g/cm ³
PTFE	: 2.16 g/cm ³
PMMA	: 1.18 g/cm ³
PUR	: 1.25 g/cm ³