

MECOSTAT[®]-3

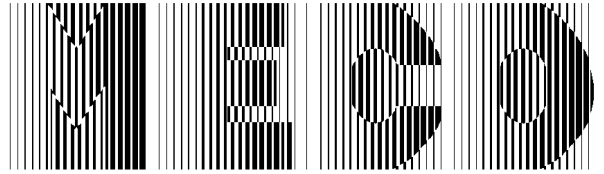
Antistatic and Antiblocking Coating Agent for Plastics

Food Packaging and Technical Applications

MECOSTAT[®]-3/112

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General

MECOSTAT-3/112 is a highly effective liquid coating material for the 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 antistatic finishing of the material remains virtually unaffected by the stretching of the material during the thermoforming process.

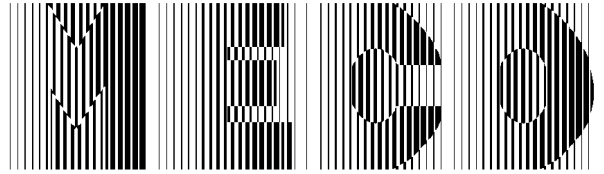
Areas of Application

Antistatic finishing of

- films, sheets, profiles and thermoformed parts of all types (films up to 1000 µm)
- moulded, injection moulded and hollow bodied parts
- fabrics, mono- and multifilaments
- EPS, surfaces of foam materials

Typical Properties of the Coating with MECOSTAT-3/112

- long term antistatic finishing for several years with reduction of the surface resistance as far as $10^7 - 10^8 \Omega$ at standard climatic conditions
- strong adhesion of the antistatic agent 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 antistatic finishing
- excellent wetting properties on plastic surfaces resulting in excellent antistatic 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
- **MECOSTAT-3/112** replaces the antistatic additives used until now resulting in
 - no migration in to the packed material, no accumulation during recycling
 - reduced costs
- highly transparent coating
- usable in the packing industry for foodstuffs according to EC-Directives
- **MECOSTAT-3/112** 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 are dependent on the application purpose)
- coating quantity: 1.0 to 3.5 g/m² per sqm (wet coating amount)
- the coated surface must be completely dry before further processing or winding the film (if required, drying with warm air)
- **MECOSTAT-3/112** - surface antistatic agent is supplied as a ready for use solution
- machine parts which come into contact with **MECOSTAT-3/112** should be made of corrosion proof materials but not from copper, aluminium and their alloys
- a combination of **MECOSTAT-3/112** with antistatic / anti-blocking agents (e.g. silicon derivatives) is not recommended because of possible reactions
- depending on the particular application corona pretreatment is recommended (on polyolefines and polystyrene))
- 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

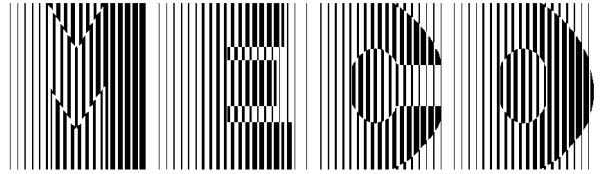
MECOSTAT-3/112 as well as the raw materials contained in it comply with the appropriate EC-Directives on the antistatic finishing of plastics in food packaging.

MECOSTAT-3/112 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