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# **MECOSTAT<sup>®</sup>-3**

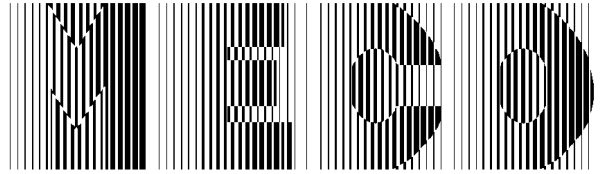
**Antiblocking and Antistatic Coating Agent for Plastics**

**Food Packaging and Technical Applications**

**MECOSTAT<sup>®</sup>-3/147**

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## **General**

**MECOSTAT-3/147** is a highly effective liquid coating material for the antiblocking 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 material remains virtually unaffected by the stretching of the material during the thermoforming process.

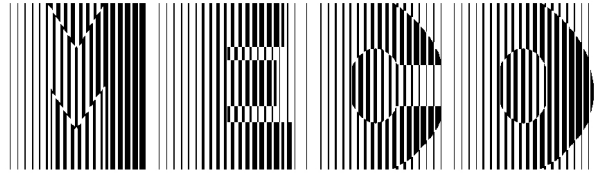
## **Areas of Application**

Antiblocking and Antistatic finishing of

- films, sheets, profiles and thermoformed parts of all types (100 - 1000  $\mu\text{m}$ )
- films for transparent packaging

## **Typical Properties of the Coating with MECOSTAT-3/147**

- long term antistatic finishing for several years with reduction of the surface resistance as far as  $2 \cdot 10^8 \Omega$  at standard climatic conditions
- antistatic effect also at very low humidity (< 30%)
- 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 good 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-3/147** replaces the antistatic additives used to date resulting in no migration in to the packed material, no accumulation during recycling
- reduction in costs
- striation-free highly transparent coating
- usable in the packing industry for foodstuffs according to EC-Directives
- **MECOSTAT-3/147** 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)
- If **MECOSTAT-3/147** is applied on warm plastic surfaces, the surface temperature should not exceed 80 °C.
- coating quantity: 0.8 to 3.5 g 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-3/147** - surface antistatic agent is supplied as a ready for use solution
- machine parts which come into contact with **MECOSTAT-3/147** should be made of corrosion proof materials but not from copper, aluminium and their alloys
- a combination of **MECOSTAT-3/147** with antistatic / anti-blocking agents (e.g. silicon derivatives) is not recommended because of possible reactions
- depending on the application, a corona pretreatment is recommended (e.g. 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

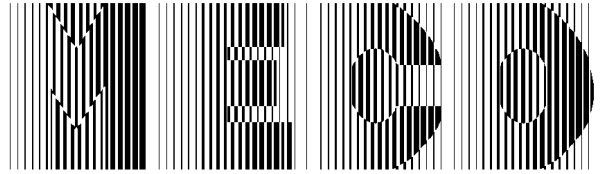
## **Safety**

**MECOSTAT-3/147** 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-3/147** 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.



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