

MECOSTAT[®]-3

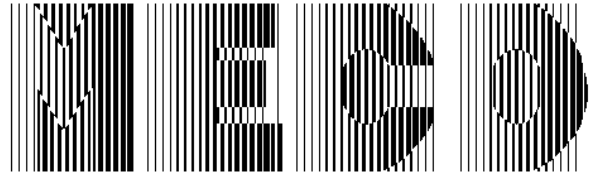
Surface Antistatic Agent for Plastics

Food and technical packaging

MECOSTAT[®]-3/232

MECO
ENERGIE-KOLLEKTOREN GmbH
Radolfzeller Str. 56
D-78476 Allensbach / Germany

phone: ++49 (0) 75 33 / 94 98 3 - 0
fax: ++49 (0) 75 33 / 94 98 3 - 33
e-mail: service@mecostat.de
Internet: <http://www.mecostat.com>



General

MECOSTAT-3/232 is a highly effective liquid coating material for the antistatic and anti-blocking treatment 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 treatment of the material remains virtually unaffected by the stretching of the material during the thermoforming process.

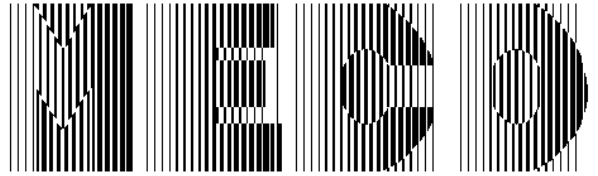
Areas of Application

Antistatic treatment of

- thermoforming sheet
- packing films
- moulded, injection moulded and hollow bodied parts
- fabrics, mono- and multifilaments

Typical Properties of the Coating with MECOSTAT-3/232

- long term antistatic treatment for several years with reduction of the surface resistance as far as $10^8 \Omega$ even under standard climate
- 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 anti-static treatment
- a high degree of cross-linkage on plastic surfaces resulting in good anti-static treatment even under major thermoforming conditions
- the slip properties of the plastic surfaces are improved considerably by the coating, therefore improving the stackability of thermoformed parts
- **MECOSTAT-3** replaces the antistatic additives used to date resulting in no migration in to the packed material, no accumulation during recycling
- reduction in costs
- highly transparent coating
- usable in the packing industry for foodstuffs according to EC-Directives and BfR-Recommendations
- **MECOSTAT-3** is high yielding and therefore keeps down the costs of anti-static treatment
- 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 (the appropriate processes are dependent on the application purpose)
- coating quantity: 0.8 to 2.5 g/m² wet coating
- the coated surface must be completely dry before further processing or rolling up the sheet (possibly warm-air dried)
- no particular safety precautions are required for processing or disposal
- **MECOSTAT-3** - surface anti-static agent is supplied as ready-to-use solution
- machine parts which come into contact with **MECOSTAT-3** must be made of corrosion proof materials but not from copper, aluminium and their alloys
- a combination of **MECOSTAT-3** with anti-static / anti-blocking agents (e.g. silicon derivatives) is not recommended because of possible reactions
- depending on the particular application corona pre-treatment is recommended (on polyolefines)
- 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

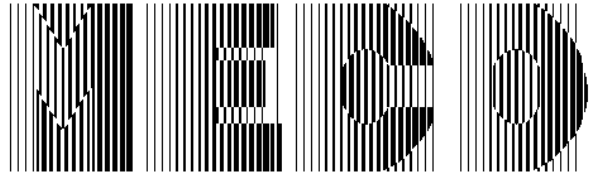
Safety

MECOSTAT-3/232 as well as the raw materials contained in it comply with the requirements of the German Foodstuffs and Requisites Act, with the relevant recommendations of BfR and also with the EC-Directive 2002/72/EC on the antistatic finishing of plastics in food packaging. **MECOSTAT-3/232** 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 spec. weight depends on 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 |