MECOSTAT®-3

Surface Antistatic Agent for Plastics

Standardtype
for Food Packing and Technical Applications

MECOSTAT®-3/124

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General

MECOSTAT-3/124 surface antistatic agent is a highly effective liquid coating material for the antistatic 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.
MECOSTAT-3/124 is based on an isopropanol solvent and is very suitable for the application on flexographic and gravure printing systems.

Areas of Application

Antistatic treatment of

- sheets of the food industry
- technical sheets and plates
- moulded, injection moulded and hollow bodied parts
- fabrics, mono- and multifilaments
- EPS, foam materials

Typical Properties of the Coating with MECOSTAT-3/124

- long-term antistatic treatment for several years with reduction of the surface resistance as far as 10^8 Ω under standard climate conditions
- strong adhesion of the antistatic agent to the plastic surface resulting in high stability against physical effects such as friction etc.
- temperature resistant coating results in unproblematic thermoforming without impairing the antistatic treatment
- a high degree of crosslinking on plastic surfaces resulting in good antistatic treatment even under major thermoforming conditions
- the slip properties of the plastic surfaces are considerably improved by the coating, and therefore improves the stackability of the thermoformed parts
- **MECOSTAT-3/124** replaces the additives used until now to a large extent
- no migration into the liquid filled, no accumulation during recycling
- highly transparent coating without any striation
- **MECOSTAT-3/124** is highly productive and therefore keeps down the costs of antistatic treatment
- usable in the packing industry for foodstuffs according to EC-Directives and BfR-Recommendations
- problem-free recycling of coated plastics

Processing Directions

- the following processes are suitable for coating: immersion, felt application, roll coating and application by flexographic or gravure printing, (the appropriate procedures depend on the purpose of application). If **MECOSTAT-3** is applied on warm plastic surfaces, the surface temperature must not be more than 80 ℃
- coating quantity : depending on the purpose of application between 0.5 and 2,0 g wet coating/m²
- **MECOSTAT-3/124** contains isopropyl alcohol, use explosion-proof installations
- before further processing or rolling up the foil the coated surface must be completely dry (possibly warm-air dried)
- **MECOSTAT-3/124** is supplied as a ready-to-use solution
- machine parts which come into contact with **MECOSTAT-3/124** must be made of corrosion proof materials but not from copper, aluminium and their alloys
- a combination of **MECOSTAT-3** with antistatic additives is not recommended because of possible reactions
- depending on the application, a Corona pretreatment is recommended (e.g. polyolefines)
- for detailed processing and safety information, please refer to the appropriate safety data sheet
- 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-3/124 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-3/124** is environment-friendly and easily biodegradable.

Service

We offer comprehensive technical advice with regard to both, to the right choice of the right type of material for application and to the coating systems.

Our application technology department is at your disposal for the conception of optimal application systems, as well as for preparing upgrade suggestions for installations already in use.

Calculation of the consumption rate

consumption rate of MECOSTAT-3 per kg plastic

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

coated sheet per kg MECOSTAT-3

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

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/cm³
PVC	:	1,42 g/cm³
PP	:	0,93 g/cm³
PETG	:	1,17 g/cm³
LDPE	:	0,95 g/cm³
HDPE	:	0,92 g/cm³
PS	:	1,10 g/cm³
ABS	:	1,12 g/cm³
PC	:	1,20 g/cm³
PTFE	:	2,16 g/cm³
PMMA	:	1,18 g/cm³
PUR	:	1,25 g/cm³