

	Technical Information	730-137-EN		V04
	Correct appliance of GKE Steri-Record® labels influencing the adhesion properties	Created	11.11.2015	UK
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Documentation labels on sterilized packages occasionally do not adhere properly during or after sterilization. Weak adhesion of labels may have different reasons:

GKE offers two different adhesion materials for GKE labels, one version with standard and one version with strong adhesion properties, because the surfaces of package materials are quite different, for example:

- textile like cotton or linen, called “woven” packing materials made from cellulose
- non-woven materials with a mix of cellulose and different non-polar fibers
- non-woven materials made only from plastic fibers, like Tyvek
- plastic trays
- stainless steel trays
- aluminium eloxal surfaces

Accordingly adhesion characteristics may be quite different depending on polarity and surface roughness of packaging materials. Especially non-woven materials with uneven surfaces provoke problems, because only 4 - 10 % of the adhesion surface will be attached, only if the label is not properly attached. It is very important at which force the label is adhered to the packaging material. If the application force is too low, the total adhesion remains low during the whole sterilization time. Therefore it is absolutely necessary to apply labels with good mechanical pressure, especially on non-woven materials.

Since it is particularly difficult to carry out enough pressure on soft packages, it is recommended in this case that the label is adhered in a position, where another object is behind, for example a tray, allowing to carry out a higher initial force during application.

Some non-woven materials release chemical substances during sterilization which soften the adhesive of the label so it may lose adhesive strength.

In case of adhesion problems, it is recommended to change from labels with standard adhesion to labels with strong adhesion properties.

There are three typical reasons, if a label adhering correctly over a long time suddenly does not adhere anymore:

1. In most cases it turns out that the packaging material has changed, either intentionally (because the purchase department has bought another material) or unintentionally (because the specification of the material has changed).
2. Labels are adhered by another person who applies them with less mechanical force.
3. New packing configurations have been established, especially packages with soft surfaces which make it difficult to carry out an adequate pressure during appliance.

GKE has established for many years a high-level quality control test procedure for the adhesion specifications in order to ensure an identical adhesion quality with each batch.