

GUIDE TO LABEL APPLICATION

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SYSTEM LABEL





INTRODUCTION

So many equipment manufacturers depend on self-adhesive pressure sensitive labels for branding or for other important information on their products. Application of labels may seem like a simple task, however, if certain conditions and methods are not followed there is no certainty that the label will adhere correctly. Issues such as label falling off, curling at the edges or corners, bubbles forming under the label, label shrinkage or physical damage from the application method.

This guide is applicable to any pressure sensitive self-adhesive label.

It should be a simple task to apply labels that remain in place.

We hope that this short guide helps.

If you fail to consider what could go wrong and prepare, you may not see the effects of this immediately, so be sure to be prepared and informed before you start.

STORAGE

Typically, labels should be stored at 22°C and 50% relative humidity. Storing labels at higher or lower temperatures may not provide the level of adhering performance you desire.

Keep labels in sealed packaging out of direct sunlight for maximum shelf life.

Some label materials may be prone to curling, expansion or contraction after application if taken from one storage location and applied in another location with different temperature and relative humidity levels. So to avoid any stresses in materials or adhesion with the application surface, it may be of benefit to have both labels and application surface stored in the same area for a period prior to label application.



SURFACE PREPERATION

For optimum results, the application surface that the label will be applied to must be dry, dust free, and cleaned of all oil, grease and oxidized materials.

Surfaces may be cleaned with an industrial cleaning solution such as Isopropyl Alcohol (IPA) or Methylated sprits. Stronger solvents may be required to remove oils and greasy substances from bare materials. Acetone may be used as a more aggressive option, however, be careful with any surface that is not bare metal as Acetone will destruct or remove the paint or any plastic coating.

Carry out appropriate risk assessment and use proper safety precautions when handling solvents.

It may be best to check the durability of the surface to be cleaned in an unseen or discrete area with available solvent before cleaning in label area.

Wipe dry with lint free and clean rags after cleaning with solvent.

In some cases for metal surfaces and in particular for galvanised surfaces that are or have been stored outdoors, it may be necessary to dissipate moisture within the metal with a blow torch prior to applying labels. Conduct appropriate risk assessment when using blow torch considering flammable or combustible materials in the surrounding area.

Note, despite the fact that a bond will be encouraged when label is applied to a warm surface, it should be considered, that applying a label to a warm plastic moulded surface immediately after removal from a moulding process may result in subsequent bubbling of the label due to shrinkage or out-gassing from the plastic.

When applying labels to moulded plastic, release agents may interfere with label adhesion.

Also applying a label to a surface and relocating the surface, machine etc with the applied label to the outdoors immediately or within 72 hours may result in the label not adhering to it's optimum.

Remember, the bonding process with the application surface will continue for 48 to 72 hours after application. Storage in a warm temperature assists the bonding process.

PRE-APPLICATION CHECKS

The label stock and the application surface should be allowed to condition in the application area for several hours before application to avoid stresses with conflicts in expansion and contraction rates when the label is applied. Such conflicts may lead to label delaminating from the surface or air bubbles under the label.

Ensure that you have predetermined where the label is going to be positioned and that you can ensure it will be level to avoid lifting and repositioning.

For efficiency in applying multiple labels in an assembly-line situation consider using a template where possible to achieve consistency.

Back Split in the backing liner and the way the label presents will assist with efficiency in manual application if high volumes are involved.

Train the person who will apply the labels as per the information listed here as often label application is taken for granted and are just slapped on which will result is the label subsequently peeling off.

LABEL APPLICATION

Remove the backing liner from the label being careful not to touch the adhesive with your fingers. Do not allow the adhesive to become contaminated with dust or dirt.

Apply the label stock to the surface with firm thumb pressure starting from one side of the label and moving across the label to the opposite side to exclude air from behind the adhesive.

A roller or spatula may be used to press down the label.

When using a roller, select the softest roller possible and do not use excessive pressure.

Using firm pressure, repeat the process two or three times to insure 100% contact of the adhesive to the surface. In this situation, "more is better". More application contact provides higher immediate bond strength. This allows the adhesive to "flow" into the cracks and crevices of a substrate thereby achieving more intimate contact between the adhesive and the surface.

Bond increases with Time and Temperature.

Adhesives will meet ultimate bond strength after 72 hours. In some cases bond strength can be increased and ultimate bond strength can be achieved more quickly by exposure of the bond to elevated temperatures i.e. ca 60°C which provides better wet-out of the adhesive onto the application surface.



CONCLUSION

The customer may supply System Label with a housing or panel to allow us to determine or narrow down some suitable materials for the customer's application, however, We cannot anticipate all of the different surfaces and contaminants that may exist.

We recommend that the Customer conduct a test of surface preparation and label adhesion before ordering labels or adhering thousands of production labels.

In addition, when there are changes in plastics, on paint formulations or suppliers of these materials, it is advisable to run another evaluation.

When ordering a label from System Label, it is important to advise on the following, What the application surface is?

Is the application indoor or outdoor and what is the expected life span of the label.

Is it exposed to any particular substances/chemicals/ fuels etc. or to harsh environments / extreme weather.

Is the label hand applied or auto applied, is the label fitted into a recess on the product surface..

The information listed on this document is general guidelines only and not specific to any one customer, material, surface or application. The Customer should evaluate and test in conjunction with their own application.

Disclaimer:

The content provided is intended solely for general information purposes and is provided with the understanding that the System Label are not herein engaged in rendering engineering or other professional advice or services. The practice of engineering is driven by site-specific circumstances unique to label application project. Consequently, any use of this information should be done only in consultation with a Customers own professional Engineer who can take into account all relevant factors and desired outcomes. The information was posted with reasonable care and attention. However, it is possible that some information is incomplete, incorrect, or inapplicable to particular circumstances or conditions. We do not accept liability for direct or indirect losses resulting from using, relying or acting upon information in this guide document.



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