Avery® Technical Bulletin 1.07
Removal of Decals

Introduction

Avery Graphics brand films with adhesives have been designed for use in the manufacture of high quality architectural, fleet, general signage and promotional decals. Should removal of markings be required, differences in film characteristics (e.g., cast vs. polyester) and the substrate surface (e.g., painted vs. unpainted) will combine to make each removal slightly different. Removability of pressure sensitive adhesive (PSA) films is not a property of the adhesive alone. It is a combination of face film, adhesive, substrate and exposure conditions. The purpose of these instructions is to provide a general removal method useful in many common situations. Always test a small area before commencing decal removal to ensure that the substrate will not be negatively effected.

Definitions

Removability: the ability of a pressure sensitive adhesive (PSA) film to be removed in large pieces leaving little or no adhesive on the substrate.

Removable Adhesive: an adhesive designed to have relatively low adhesion level to facilitate removal after a stated period of use.

Suggested Removal Tools

- Weed Burner or electric heat gun
- Knife
- Razor Blade
- Putty Knife
- Cleaning Solvent

Cold Pull Method

In many instances, it is merely a matter of picking or lifting an edge of an applied decal and pulling to remove the entire decal. This can be achieved with the use of a fingernail, putty knife, knife, or razor blade. Once an edge has been lifted, grasp the decal with your hand and pull the decal away from the substrate. Minimising the degree of the pull angle will reduce the potential for adhesive transfer typically less than a 45° angle will meet this requirement. However, success can be achieved at greater than 45° angles, but adhesive residue may be present.

When the temperature is below 10° C there may be instances where difficulty in removal is encountered. Such difficulty could cause tearing of the decal to be removed or excessive adhesive residue. When these situations arise, the Heat Method (below) is recommended.

Heat Method

With a heat gun, heat the entire decal by holding a heat source approximately 15 - 30cm away from the surface. After heating the entire decal for approximately 30-60 seconds, loosen a corner of the decal and pull the marking back slowly. A slow, steady pulling and lifting action at less than 90° angle will usually prevent the film from breaking and will remove most of the adhesive from the substrate. If decal becomes hard to pull, stop, reheat decal, and proceed with removal.

Adhesive residue may be removed by wiping with a clean rag saturated with XXL1000 decal remover, heptane, Xylene, and/or mixture of 75% MEK/25% Toluene.

NOTE: Non-hazardous citrus based adhesive removers are also available.

Chemical Method

Avery Dennison recommends an environmentally safe, non-toxic, non-flammable decal remover that will minimise the time required to remove decals. Some important instructions regarding chemical removers are:

- Apply with spray dispenser. Wait approximately 10-15 minutes until vinyl begins to bubble.
- Peel vinyl from surface.
- If vinyl does not remove easily from surface, a hot water pressure washer can be used to separate the vinyl from the surface. A minimum pressure of 2500 psi (175 kg/cm^2) is required. The minimum temperature required is 74°C.
- If adhesive remains, apply again and wait 3-5 minutes.
- Use a pressure washer to remove adhesive with a top-to-bottom, side-to-side motion. Keep the water stream narrow and the nozzle 60cm from the surface with a minimum pressure of 2500 psi.

NOTE: When using chemical vinyl removers, follow the manufacturer's recommended instructions.

Precautions

- Always test the suitability of the chosen chemical or solvent for the particular substrate surface. If any damage is visible, do not proceed with the removal.
- Solvents are flammable. Do not use or store solvents near heat, sparks, or open flames.
- Avoid prolonged breathing of solvent vapours. Work only in well-ventilated areas with sufficient air exchange to prevent vapour build-up. Avoid eye and skin contact.
- Follow all instructions and safety warnings on solvent and chemical containers.

For further information, contact your local Avery Graphics representative.