

Surface Preparation When Using Sheet with PSA

Elastomeric sheet with a “peel and stick” pressure sensitive adhesive (PSA) backing can save significant time during installation. Sheet with PSA also minimizes the need for solvent based contact adhesives. Only butt seams would require use of an approved adhesive (see TA-12). When installing sheet with PSA there are a number of important considerations.

Temperature - PSA is temperature sensitive. PSA works best when the air and substrate temperatures are 50°F and above. PSA can be installed down to 40°F, but it will take significantly more pressure to obtain a good bond. This is especially true where the insulation will be hanging horizontally such as the bottom of a wrapped rectangular duct. The use of a roller to apply even pressure is recommended, and additional mechanical fastening will provide optimum performance.

Substrate Conditions – The substrate to which sheet with PSA is being applied must be dry and free from dirt, oil, grease, rust, scale and any other foreign matter that may inhibit proper bonding. In re-lining applications, it is important to remove all old adhesive residues. Many types of steel come with a factory-applied oil to prevent “white rust”. Formed metal sections often have residual rolling oils which are used to reduce wear and tear on the forming machines but may also inhibit proper adhesion of PSA backed insulation. Contaminated substrates must be cleaned prior to installation of insulation. Cleaning methods depend upon the type of contamination and what is safely useable and allowable under the job conditions.

Painted Substrates – While PSA is not chemically incompatible with painted substrates, some paints such as epoxy coatings provide a “slick” surface which may not allow adequate adhesion of the PSA. In some applications, it may be necessary to mechanically roughen the paint surface (without damaging the integrity of the coating) to promote a better bond.

Whenever there is any doubt about the suitability of substrate or installation conditions, it is recommended that a test section be insulated prior to proceeding with the full installation. Acceptable bond is indicated when the elastomeric insulation fails (tears) internally.