

Material Adhesion Comparison

BradyID.com

Material Adhesion Comparison

Adhesion is the attraction between unlike materials. The strength of the adhesion is determined by the surface energy of the item being identified. The higher the surface energy, the greater the likelihood for the label to adhere. A lower surface energy product will be more difficult for a label to adhere.

These following charts are based on relative adhesion after 24 hour dwell within each given surface energy category.

SMOOTH SURFACE (High Surface Energy)

Typical surface energy levels for this category are above 50 Dynes/cm.

Surface Examples:
 Stainless Steel Tin
 Copper Glass
 Aluminum Smooth Metal
 Smooth Plastic

TEXTURED/ROUGH SURFACE (Medium Surface Energy)

Typical surface energy levels for this category are between 38-50 Dynes/cm.

Surface Examples:
 Cast Metal Polyurethane
 Nylon ABS
 Alkyd Enamel Polycarbonate
 Polyester PVC
 Epoxy Paint Acrylic

HIGHLY TEXTURED SURFACE (Low Surface Energy)

Typical surface energy levels for low surface energy products are below 38 Dynes/cm.

Surface Examples:
 Polystyrene Polypropylene
 Acetal Teflon
 Polyethylene Powder Coatings
 Highly Textured Highly Textured ABS

Material/Surface Adhesion Ratings

SMOOTH SURFACE RATING		
Material	Low	High
B-103	██████████	
B-330	██████████	
B-351	██████████	
B-362	██████████	
B-358	██████████	
B-367	██████████	
B-402	██████████	
B-413	██████████	
B-422	██████████	
B-423	██████████	
B-424	██████████	
B-425	██████████	
B-426	██████████	
B-427	██████████	
B-428	██████████	
B-430	██████████	
B-432	██████████	
B-434	██████████	
B-435	██████████	
B-438	██████████	
B-439	██████████	
B-449	██████████	
B-457	██████████	
B-459	██████████	
B-464	██████████	
B-473	██████████	
B-776	██████████	
B-480	██████████	
B-483	██████████	
B-484	██████████	
B-486	██████████	
B-487	██████████	
B-488	██████████	
B-489	██████████	
B-499	██████████	
B-533	██████████	
B-593	██████████	
B-717	██████████	
B-718	██████████	
B-719	██████████	
B-7546	██████████	
B-7566	██████████	
B-7576	██████████	
B-8423	██████████	
B-8425	██████████	
B-966B	██████████	

TEXTURED/ROUGH SURFACE RATING		
Material	Low	High
B-351	██████████	
B-362	██████████	
B-358	██████████	
B-367	██████████	
B-402	██████████	
B-408	██████████	
B-413	██████████	
B-422	██████████	
B-423	██████████	
B-424	██████████	
B-425	██████████	
B-426	██████████	
B-430	██████████	
B-432	██████████	
B-434	██████████	
B-436	██████████	
B-438	██████████	
B-457	██████████	
B-776	██████████	
B-480	██████████	
B-483	██████████	
B-484	██████████	
B-486	██████████	
B-487	██████████	
B-488	██████████	
B-489	██████████	
B-533	██████████	
B-593	██████████	
B-7546	██████████	
B-7566	██████████	
B-7576	██████████	
B-8423	██████████	
B-8425	██████████	

HIGHLY TEXTURED SURFACE RATING		
Material	Low	High
B-351	██████████	
B-362	██████████	
B-358	██████████	
B-367	██████████	
B-402	██████████	
B-408	██████████	
B-422	██████████	
B-423	██████████	
B-424	██████████	
B-425	██████████	
B-426	██████████	
B-427	██████████	
B-428	██████████	
B-430	██████████	
B-432	██████████	
B-434	██████████	
B-436	██████████	
B-449	██████████	
B-459	██████████	
B-480	██████████	
B-483	██████████	
B-484	██████████	
B-486	██████████	
B-488	██████████	
B-489	██████████	
B-533	██████████	
B-593	██████████	
B-7546	██████████	
B-7566	██████████	
B-7576	██████████	
B-8423	██████████	
B-8425	██████████	

Please see Brady Technical Data Sheets at BradyID.com/techdata for specific adhesion values. Testing in the specific application is recommended.