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Tek Tip

# Choosing the Correct Protective Tape for an Application

Protective tapes, often times referred to as mask, are designed to protect various surfaces during manufacturing, assembly, shipping and delivery. While these tapes typically only rest temporarily on a substrate, selecting the correct tape for the application can be a critical and an often overlooked processing step.

There are a variety of protective masks available in the marketplace. LDPE or low density polyethylene tapes are probably the most prevalent. However, co-extruded, paper, polyester, co-extruded UV inhibitor and polypropylene protective tapes are also available. Understanding some of the key attributes of the different films can be helpful in the product selection process.

- **Polyethelene (LDPE) tapes** provide better transparency, good abrasion resistance and are cost effective. LDPE tapes come in a variety of gauges. Thinner gauge materials (2 mil) will be more conformable while the thicker gauge materials (3-4 mil) will provide better abrasion resistance and rigidity.
- **Co-Extruded (Co-Ex) tapes** have excellent conformability, enhanced abrasion and puncture resistance as well as good heat resistance. The tapes come in a variety of gauges ranging from 2-5 mils.
- **UV resistant co-extruded tapes** come in clear, blue and black/white. They provide outdoor UV resistance for 1-9 months.
- **Paper tapes** are highly conformable, have good temperature and abrasion resistance but lack rigidity. Paper tapes are often used for application purposes in order to insure proper spacing of lettering or signage.
- **Polyester protective tapes** provide the best optical clarity and have excellent heat and puncture resistance.
- **Polypropylene tapes** have good abrasion resistance, good heat resistance and good short term outdoor UV resistance.
- **Polyurethane protective tapes** are used to permanently protect surfaces against impact.

Examples would include wind turbine blades and automotive paintwork.
Tack levels of protective films vary as well. For simplicity sake, the adhesive on protective films are typically defined as being:

| **Category** | **Representative adhesion** (should not be used for specification purposes) |
|---|---|
| • Very low tack | 1.0 oz/in |
| • Low Tack | 2.0 -6.0 oz/in width |
| • Medium Tack | 7.0-15.0 oz/in width |
| • High Tack | 16.0 + oz in width |