



Safety

Marking Tape That Keeps on Sticking but Comes Off Easily: How 3M Supports Plant Safety

James Langford | Dec 19, 2024

Forget the proverb that tough times don't last: For the floors of some manufacturing facilities, distribution centers and warehouses, they often do.

Which means that industrial marking tape used to identify work zones and hazard points needs to be tough, too—tough enough to handle the wear and tear of foot traffic, forklifts and workers dragging pallets.

"Imagine you're trying to prepare a floor and put tape down in a facility with a floor area the size of four or five big-box retailers," says Michael Engh, a business development manager at 3M. "You want to do that as infrequently as possible."

That's one of the goals that **3M's Durable Floor Marking Tape 971** was designed to achieve. With a thickness of 19 mils (thousandths of an inch) and 2-, 3- and 4-inch widths, the 971 tape can be applied quickly and easily and removed cleanly from many surfaces, without leaving adhesive residue.

Less Time Scrubbing and Scraping

That's a big benefit to the operators and maintenance workers who handle tape application and removal, Engh says, "because they don't have to spend time on their knees, scrubbing and scraping old tape and adhesive."

Removing old marking tape, whether it's to replace faded markings or because of equipment relocation, can be both arduous and time-consuming, particularly if portions of tape cling stubbornly to floors and other surfaces. The more often the tape needs to be replaced, the more time must be devoted to the task—and taken away from other responsibilities.

That's an increasing challenge in manufacturing facilities and machine shops, where a shortage of workers may reach 2.1 million by 2030, and managers are grappling with inflation, disrupted supply

chains and the potential for higher raw-materials costs.

Because the colors in the 971 line permeate the entire thickness of the tape, they're not dulled by wear and tear, Engh explains. That's also a feature of the 471 line, which was previously 3M's flagship floor-marking tape. Designed to resist both abrasion and solvents, the 471 features a slight elasticity that helps it conform tightly to uneven surfaces without lifting and retracting, the company says.

It remains a "fantastic tape for many applications," Engh adds, and with the 764 floor-marking line, helps give 3M the versatility to meet customer needs in areas from low-traffic to high-traffic zones.

While the U.S. Occupational Safety and Health Administration requires clear marking of *aisles and passageways* as well as using the color red to identify fire protection equipment and danger and the color yellow to mark physical hazards and urge caution, other designations are more flexible.

Many companies apply the 5S system associated with lean manufacturing principles to workplace safety as well, adapting its principles of sorting, straightening, shining, standardizing and sustaining accordingly, and *3M's Industrial Adhesives and Tapes Division offers products* geared toward helping.

Simpler Reconfiguration

The 3M™ Vinyl Tape Safety and 5S Color Coding Pack includes one roll each of yellow, orange, red, green, blue and black Vinyl Tape 471, one roll of black and white Safety Stripe Tape 5700 and one roll of black and yellow Safety Stripe Tape 5702.



Industrial marking tape used to identify work zones and hazard points needs to be tough enough to handle the wear and tear of foot traffic, forklifts and workers dragging pallets. | Photo courtesy of 3M

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Manufacturers may use the system to designate everything from the location of a particular piece of equipment to walkways, no-entry zones and eyewash stations, Engh says. Logistics businesses often use marking tape to show workers where boxes should be lined up for delivery trucks.

Correct application of marking tape is key to maximizing its benefits, 3M says. Recommended steps include:

- Surface preparation

- Surfaces should be as clean, dry and smooth as possible. Remove all traces of oils, grease, moisture and any accumulated wax as well as dust, dirt and other grime.
- Use cleaning solutions that don't leave residue or wax and allow time for the surface to dry thoroughly.
- Make sure that freshly sealed surfaces, including but not limited to concrete or varnished floors, are allowed to dry thoroughly.
- Careful application
 - Make sure the temperature of the tape and the application surface are between 60 degrees to 80 degrees Fahrenheit (16 degrees to 27 degrees Celsius) for best adhesion.
 - Use a chalk line as a guide when trying to obtain long, straight lines.
 - Remove a portion of the liner from one end of the tape and firmly tack it to the floor. Gently pull the liner away at an angle as the tape is applied by hand.
 - Where joints are required (at corners and splices, for instance), use a miter joint or butt joint.
 - After applying the tape, use a weighted roller or hand roller to make sure the tape fully adheres to the surface.

While 3M makes more than 60,000 different products, the company has long been known for its quality adhesives and its Durable Floor Marking Tape 971 lives up to that reputation.

Not only does the easy removability make it ideal for facilities that are prone to reconfiguration, Engh says, "the holding power on the floor is fantastic. It lasts and it sticks, which are two of the functional qualities that we're getting a lot of good feedback on."

What problems has your shop encountered when removing floor-marking tape? Tell us in the comments below.

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