



# UHMW Polyethylene Tape

## 5421 · 5423

### Technical Data

July, 2016

|                            |                                                                                                                                                                                                                                                                                                                                         |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| <b>Product Description</b> | 3M™ UHMW Polyethylene Tapes are film coated with a rubber adhesive which provides an excellent abrasion resistant surface. These tapes feature a unique combination of properties that make it ideal for many tough impact wear or sliding applications. 3M™ UHMW-PE Film Tape 5421 is a thinner version of 3M™ UHMW-PE Film Tape 5423. |  |  |  |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|

| Product Construction | Backing                                                    | Adhesive | Color       | Standard Roll Length |
|----------------------|------------------------------------------------------------|----------|-------------|----------------------|
|                      | UHMW-PE Film<br>(ultra-high molecular weight polyethylene) | Rubber   | Translucent | 36 yds. (32.9 m)     |

| Typical Physical Properties           | Note: The following technical information and data should be considered representative or typical only, and should not be used for specification purposes. |  |                  |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------|
|                                       |                                                                                                                                                            |  | ASTM Test Method |
| <b>3M tape 5421</b>                   |                                                                                                                                                            |  |                  |
| Adhesion to Steel:                    | 34 oz./in. width (37 N/100 mm)                                                                                                                             |  | D-3330           |
| Tensile Strength:                     | 46 lbs/in. width (796 N/100 mm)                                                                                                                            |  | D-3759           |
| Elongation at Break:                  | 470%                                                                                                                                                       |  | D-3759           |
| Backing Thickness:                    | 5.0 mils (0.13 mm)                                                                                                                                         |  | D-3652           |
| Total Tape Thickness (without liner): | 6.7 mils (0.17 mm)                                                                                                                                         |  | D-3652           |
| Liner Thickness:                      | 3.5 mils (0.09 mm)                                                                                                                                         |  | D-3652           |
| Temperature Use Range:                | -30° to 225°F (-34° to 107°C)                                                                                                                              |  |                  |
| <b>3M tape 5423</b>                   |                                                                                                                                                            |  |                  |
| Adhesion to Steel:                    | 36 oz./in. width (39 N/100 mm)                                                                                                                             |  | D-3330           |
| Tensile Strength:                     | 86 lbs/in. width (1500 N/100 mm)                                                                                                                           |  | D-3759           |
| Elongation at Break:                  | 530%                                                                                                                                                       |  | D-3759           |
| Backing Thickness:                    | 10 mils (0.25 mm)                                                                                                                                          |  | D-3652           |
| Total Tape Thickness (without liner): | 12 mils (0.30 mm)                                                                                                                                          |  | D-3652           |
| Liner Thickness:                      | 3.5 mils (0.09 mm)                                                                                                                                         |  | D-3652           |
| Temperature Use Range:                | -30° to 225°F (-34° to 107°C)                                                                                                                              |  |                  |

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Features</b>                                 | <ul style="list-style-type: none"> <li>• Tape demonstrated no evidence of wear through after Taber Abrasion at 1000 cycles, using CS-10 wheel and 1000g load when applied to S-37 mounting sheet.</li> <li>• Low water vapor transmission rate &lt;0.50 g/100in.<sup>2</sup>/24hrs.</li> <li>• Thick caliper UHMW polyethylene tape for extended service life as a protective surface against tough impact wear or sliding applications.</li> <li>• Outstanding abrasion resistance so will outwear PTFE and other materials in sliding applications.</li> <li>• Low coefficient of friction characteristics is exceeded only by PTFE.</li> <li>• UHMW-PE tape can be used where lubrication is not possible because of contamination.</li> <li>• Rubber Adhesive provides good initial tack for immediate bonding to material surface.</li> <li>• Liner makes it ideal for fabricating or die-cutting into various lengths and shapes.</li> </ul> |
| <b>Application Ideas</b>                        | <ul style="list-style-type: none"> <li>• Noise reduction between dissimilar parts.</li> <li>• Reduce squeaks, rattles and other noises that occur with movement</li> <li>• Lining of conveyer guide rails, tank and bin liners, and discharge chutes.</li> <li>• Protection for aluminum sheets on stretch forming presses.</li> <li>• Liners for Spray booths.</li> <li>• Slick surface for easy glide for drawers and cabinets.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Storage</b>                                  | Store under normal conditions of 60° to 80°F (16° to 27°C) and 40 to 60% relative humidity in the original packaging material.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Shelf Life</b>                               | To obtain best performance, use this product within 18 months from date of manufacture.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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**ISO 9002**

This Industrial Adhesives and Tapes Division product was manufactured under a quality system registered to ISO 9001:2000 standards.



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