

## SUBJECTIVE BONDING STUDY

### PRODUCTS TESTED

MONMOUTH DURAFOAM™ P191HD 100% EPDM

### SETUP AND TESTING

Adhesive systems (see charts below) were backed with 1 mil PET film (liner-side for double-coated products) and trimmed to 1 inch width. 2 sample sets were laminated to customer-supplied Monmouth DURAFOAM P191HD 100% EPDM. One set laminated at Room Temperature and one set using 160°F Heat Assist with 50% Compression. Sample was conditioned as noted and subjectively evaluated.

### SUBJECTIVE RATING SYSTEM

- EXCELLENT:** Completely destructive bond and/or substantial force required to remove adhesive from material.
- VERY GOOD:** Substantial Destruction to surface of material and/or significant force required to remove adhesive from material.
- GOOD:** Partially destructive bond and/or moderate force required to remove adhesive from material.
- FAIR:** Non-destructive bond to material but moderate force required to remove adhesive

### SYMBOLS

|                            |                                                                               |
|----------------------------|-------------------------------------------------------------------------------|
| HEAT ASSIST NECESSARY      | Δ Bond demonstrated improvement after accelerated aging noted (time and temp) |
| HEAT ASSIST BENEFICIAL     | D Discoloration of adhesive noted after accelerated aging noted               |
| S Indicates Product Series | OG Outgassing                                                                 |
| LAM Lamination Temperature | L- Minor Legging      L Moderate Legging      L+ Major Legging                |
| RT Room Temperature        |                                                                               |

Foam Bonding evaluations are affected by foam thickness and integrity. Adhesion to foam and rubber products are affected by factors including material thickness and density, lamination speed, temperature, and compression. Bond strength observed immediately after lamination is often not a reliable indicator of long term adhesion or compatibility. Results being provided as a guide to product selection; products should be thoroughly tested to application materials applied using intended production equipment and practices and evaluated in conditions reflecting intended use.

Data presented are typical properties taken from a limited number of production runs, and should not be used for specification purposes. Berry Global, Inc. makes no warranty expressed or implied, and specifically disclaims and disavows any implied warranty or merchantability and of fitness for a particular purpose. Berry also is not responsible for formulation changes in products that could impact the bonding ability of the Berry materials tested. Accordingly, all Berry products are sold with the understanding that purchasers will be solely responsible for determining the suitability of the materials for any purpose.



| MAT'L             |           | MONMOUTH DURAFOAM™ P191HD 100% EPDM                            |
|-------------------|-----------|----------------------------------------------------------------|
| SUBJECTIVE RATING | EXCELLENT | 554T<br>652▲<br>653▲<br>654M<br>655▲<br>730▲<br>4787M<br>5944M |
|                   | VERY GOOD | 2016M                                                          |
|                   | GOOD      | 2237M                                                          |

RUBBER-BASED ADHESIVE

HYBRID (ACRYLIC EXPOSED-SIDE, RUBBER LINER-SIDE)

ACRYLIC ADHESIVE

T = TISSUE CARRIER; M = POLYESTER CARRIER, ▲ = UNSUPPORTED (TRANSFER) TAPE