

## Adhesive Lamination Recommendations for PORON® Polyurethane

Adhesive lamination is essential for many PORON® polyurethane material applications in a wide variety of industries. These design recommendations are based off of Rogers' material manufacturing experiences and are intended to assist our converters with adhesive lamination for our PORON products. Rogers also provides a recommended adhesives list for our PORON products.



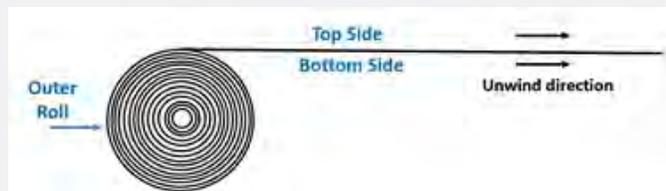
### Surface Identification

There are several different labels given to the two surfaces of PORON polyurethane materials:

- Top and bottom side
- Shiny and matte finish
- Outer and inner roll

The top, shiny, and outer all refer to the same surface of the material. This side of material cures open to the air.

The bottom, matte, and inner all refer to the surface of the material that cures on the paper carrier.



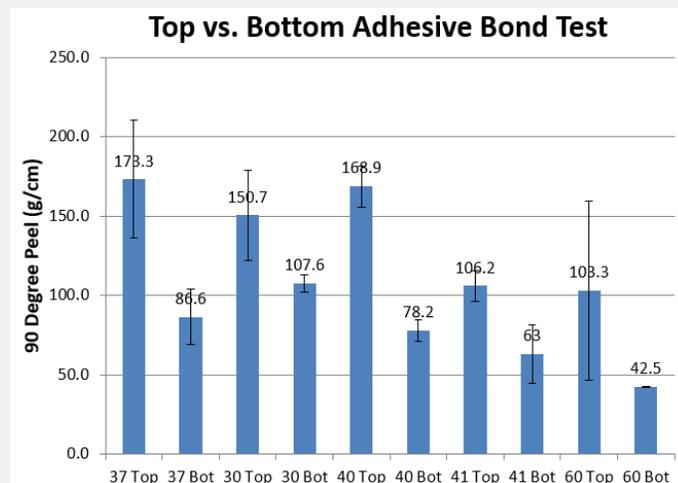
## Lamination

When PORON foam is poured onto the line, gas escapes while the material cures creating the uniform cell structure in the foam. The top and bottom side of the material have different surface characteristics based on how the roll is manufactured.

The top surface cures to open air, allowing gas to escape and leaving the surface with few pores. Because the gas escapes while the material is still in liquid form, the surface flows and reforms a “skin-like” surface.

On the paper side, gas is not able to escape as easily, creating a different surface texture with more open pores.

Due to the difference in surface texture, Rogers Corporation recommends that adhesives be laminated to the outer surface (top side) of the material. The top surface microstructure contains less pores, resulting in more surface area for the adhesive to bond to. *Chart 1* shows the difference in surface adhesion when the foam is laminated on the top side versus the bottom side. The top side consistently creates a better bond.



**Chart 1: Lamination Results 1**