

OPPANOL® in Adhesives

OPPANOL® (polyisobutene) is used as a stand-alone binder, performance enhancer, or as a plasticizer in different adhesives. Adhesives made with OPPANOL® provide superior barrier properties, electrical insulation, and excellent flexibility.

Key Performance Features

- Low water vapor transmission in different environments
- Easily tailored to achieve desired balance of adhesion and cohesion with different grade selection
- Excellent adhesion to low surface tension substrates
- Great thermal stability and flexibility at both low and elevated temperatures

OPPANOL® Mechanical Properties

OPPANOL® adhesive films were tested for 180-degree peel adhesion, shear strength, and loop tack on steel substrates. Graph 1 shows that different molecular weights of OPPANOL® provide various adhesion and shear strengths. By blending different grades, the desired balance between adhesion and cohesion can be achieved. Tackiness of OPPANOL® films are shown below in Chart 1. Medium molecular weight OPPANOL® (B grades) provide higher tack compared to high molecular weight OPPANOL® (N grades).

Graph 1: Peel Adhesion and Shear Strength on Steel OPPANOL® Grades and Blends

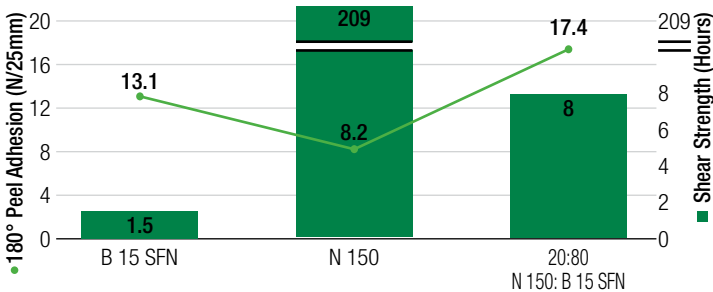
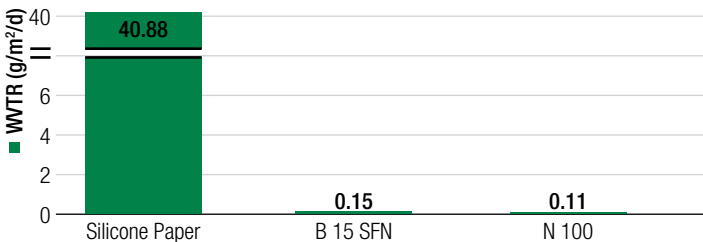


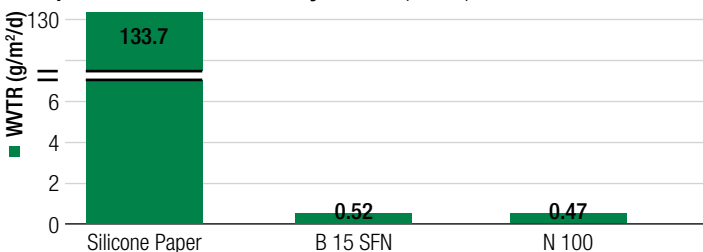
Chart 1: Loop Tack FINAT FTM 9

OPPANOL® Grades and Blends	Loop Tack (N/25mm)
B 15 SFN	17.0
N 150	8.1
20:80 of N 150: B 15 SFN	10.9

Graph 2: Water Vapor Transmission Rate at Room Temperature 23 °C (73F), 85% R.H.



Graph 3: Water Vapor Transmission Rate at High Temperature and Humidity 38 °C (100F), 90% R.H.



Polyisobutene is an elastomer providing impermeability to water, vapor, and gases. OPPANOL® maintains less than or equal to 0.5 water vapor transmission rate (g/m²/d) at room temperature and at high temperature and humidity (as shown in Graphs 2 and 3). This property creates an excellent barrier to resist water or gas penetration.



Water Vapor Transmission Test



25 mm strips of OPPANOL® adhesive films for FINAT tests

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