Technical Data Sheet

SPUR+™ PSA 3.0 Pressure Sensitive Adhesive

Product Description

SPUR+ PSA 3.0 is a pressure sensitive adhesive supplied as an ethyl acetate solution at
40 percent adhesive solids and may be further diluted with ethyl acetate, butyl acetate, MEK, or MIBK solvents. SPUR+ PSA 3.0 pressure sensitive adhesive has been found useful in coating of film, fabric, and rubber substrates for manufacturing pressure sensitive tapes and labels. Tapes and labels using SPUR+ PSA 3.0 pressure sensitive adhesive exhibit excel- lent resistance to solvents such as aromatic, aliphatic, anti-freeze, alcohols, brake fluid, acidic/basic aqueous solutions; high temperature shear resistance and adhesion to a variety of substrates. It is particularly suitable for high performance tape and label applications.

Key Features and Typical Benefits

- Excellent solvent resistance for Automotive & Industrial (Gasoline, Diesel, Oil), Medical (Xylene, DMSO, Acids, Alkalis) & Aerospace (Jet Fuel, Hydraulic Fluid) applications
- Wide temperature range performance; maintains good shear and tack properties at intermittent temperatures up to 356°F / 180°C
- Adhesion to a wide variety of surfaces including low energy surfaces (polyoxymethylene, polyolefins, PVC, PMMA, PC)
- Cures on thermally sensitive substrates
- Resistance to moisture and weathering (ozone, sunlight)
- Excellent balance of tack and peel properties
- Can be processed with traditional PSA coating equipment
- Accepts extending filler for cost reduction
- Can be further formulated with other PSA's (acrylic, silicone) and adhesive modifiers (tackifiers), however solvent resistant properties may be compromised.

Typical Physical Properties

Property	Value
Solids, %	40-42
Viscosity @ 25ºC (77ºF), cps(1)	2,000-10,000
Solvent	Ethyl acetate
Specific Gravity, 25ºC (77ºF)	0.90
Color	Clear, straw color

(1) Brookfield RVF, #4 Spindle @ 50 rpm

Typical Cured Adhesive Properties	Value
Tack, 2 mil PET, g/cm^2 (2)	400
Loop Tack, 2 mil PET, g/in / g/25mm	5875
Quick Stick, g/in(5) / g/25mm(5)	460
Peel from Stainless Steel, g/in(4) / g/25mm(4)	770
Peel from Stainless Steel, g/in(3) /g/25mm(3)	1130
Peel from PVC, g/in(3) / g/25mm(3)	1800
Peel from HDPE, g/in(3) / g/25mm(3)	1291
Peel from BOPP, g/in(3) / g/25mm(3)	1078
Peel from PMMA, g/in(3) / g/25mm(3)	1860
Peel from Lexan‡, g/in(3) / g/25mm(3)	1150
Peel from Aluminum, g/in(3) / g/25mm(3)	1355
Peel from Polyoxymethylene, g/in(3) / g/25mm(3)	1000
Peel from Glass, g/in(3) / g/25mm(3)	1155
SAFT, 1Kg, °C	275

(1) PolykenTM Probe Tack with 100 g/cm2 “A” weight, 1cm/s, 1 sec. contact time, 1.0 mil (25 microns) dry adhesive thickness, 0.1% water added, cure cycle: 1.5 minutes at 80°C (176°F)
(2) 180° peel off substrate using 2 mil (50 microns) PET facestock @ 12 inches (305 mm) per minute after 1 hour dwell, 1.0 mil (25 microns) dry thickness, 0.1% water added, cure cycle: 1.5 minutes at 80°C (176°F)
(3) 90° peel off substrate using 2 mil (50 microns) PET facestock @ 12 inches (305 mm) per minute after 1 hour dwell, 1.0 mil (25 microns) dry thickness, 0.1% water added, cure cycle: 1.5 minutes at 176°F (80°C)

(4) PSTC-5

Instructions for Use

Application

SPUR+ PSA 3.0 pressure sensitive adhesive is supplied at a viscosity suitable for conventional tape coating equipment. If necessary, it may be thinned with ethyl acetate, butyl acetate, MEK, MIBK or other compatible solvents. After the adhesive is applied to the backing, it is exposed to a two-step process: solvent removal and curing.

Formulation and Bathlife

A starting point formulation consists of a coating bath prepared by thoroughly mixing

0.2 wt% of water into a 30% solids solution of the adhesive. When curing at lower temperatures (below 100°C) 0.02 wt% Fomrez† UL-28 catalyst can be added to further assist in the cure. Typical formulation bathlife at ambient conditions is nominally 8 hours. **Any opened partial containers should be nitrogen purged then resealed to exclude moisture.**

Solvent Removal and Curing Process

To achieve optimum adhesive properties, it is essential to optimize the drying step of the process in order to assure that solvent is removed from the adhesive prior to the curing step of the process. Improper drying will result in residual solvent entrapment within the adhesive. Residual solvent will reduce cure rate and possibly affect adhesive properties. Typical temperature range for the drying and curing is 176°F / 80°C to 302°F / 150°C,

>1.5 minutes oven dwell time. Initial off-coater cure is green and requires ~1 week to develop final high performance properties.

Release Liner

Formulated adhesive may be direct or transfer coated to a facestock. Selection of SilForce* SL6161, SilForce SL6961, SilForce SL6625, SilForce SL7025 or SilForce SL8861 release coatings for Europe were shown to give stable release of

approximately 30-60 g/2in

(30-60 g/50 mm), 300 in/min at 180° peel adhesion for 2 mil (50 microns) PET facestock from 2 mil (50 microns) PET liner.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Technical subject matter in this publication is described and protected by one or more pending US patent applications and foreign counterparts.

Product Safety, Handling and Storage

Customers considering the use of this product should review the latest Material Safety Data Sheet and label for product safety information, handling instructions, personal protective equipment if necessary, and any special storage conditions required.
Material Safety

Data Sheets are available at www.momentive.com or, upon request, from any Momentive Performance Materials representative. Use of other materials in conjunction with Momentive Performance Materials products (for example, primers) may require additional precautions.

Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

Contact Information

Email
commercial.services@momentive.com

Telephone

Americas	**Latin America**	**EMEAI- Europe, Middle East, Africa & India**	**ASIA PACIFIC**
+1 800 295 2392 Toll free* +704 805 6946 Direct Number	**Brazil** +55 11 4534 9650 Direct Number	**Europe** +390510924300 Direct number	**China** 800 820 0202 Toll free +86 21 3860 4892 Direct number
*All American countries	**Mexico** +52 55 2169 7670 Direct Number	**India, Middle East & Africa** + 91 44 71212207 Direct number* ***All Middle Eastern countries, Africa, India,**	**Japan** +81 3 5544 3111 Direct number **Korea** +82 2 6201 4600

For literature and technical assistance, visit our website at: www.momentive.com

DISCLAIMER:

THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY "SUPPLIER"), ARE SOLD SUBJECT TO SUPPLIER'S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER'S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user bears full responsibility for making its own determination as to the suitability of Supplier's materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its

finished parts incorporating Supplier's products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier's standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

*SPUR+™ is a trademark of Momentive Performance Materials Inc.