

# Ashland laminating adhesives

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product guide



# Adhesives Product Guide

## Table of Contents

Technology	Product Name	Page
Water-based Laminating Adhesives	Purethane™	2-3
Water-based Bonding/Laminating Adhesives and PSAs	Purethane™	4
Water-based Heat Seal Coatings	Pureseal™	5
Water-based Cold Seal/Cohesive Coatings	Pureseal™	6
Solvent-based Laminating Adhesives	Solvester™	7
Two-Component Solvent-free Aromatic Urethanes	Purelam™	8
Two-Component Solvent-free Aliphatic Urethanes	Purelam Fastcure™	9
EB Curable Adhesives	PureRad™	10
UV Bonding Laminating Adhesives/Coatings/PSAs	PureRad™	11-12
UV Curable Laminating Adhesives	PureRad™	13
UV Curable PSAs	PureRad™	14
UV LED Dual Cure Adhesives	PureRad™	15

# Adhesives Product Guide

## Water-Based Laminating Adhesives

Ashland's full line of urethane-acrylic and polyester-based laminating adhesives are vertically integrated manufacturing processes allow precise control over the properties and performance of the adhesive for flexible packaging applications. Products designed for wide web and narrow/midweb flexo applications where heated nips are not available. A proprietary epoxide cross-linker can be used that is CFR 21 175.105 safe for most applications to improve bond strength and product resistance. Certain products are designed for 1-component application where green bonds to films and metalized films are suitable for label and flow wrap applications.

Product Name	Product Description	Product Details	Solids	Viscosity
Purethane™ A1078	Laminating adhesive	Adhesive designed for dry bond laminations with or without heated nip, especially general purpose packages with films, metalized films, and paper stock and has excellent COF stability, and low odor retention. Add 1-3% Purethane C-CAT 104 Cross-linker when additional moisture, temperature, or product resistance is required. Not recommended for laminations that will include zippers. Best choice for laminations when some tack is desirable or deep freeze to moderate heat exposures will occur.	52%	25 sec Zahn #2
Purethane™ A1078F	Laminating adhesive	WB dry bond laminating adhesive based on acrylic and urethane chemistry engineered for flexo application and is suitable for bonding films commonly used in food packaging applications. Product can be cross-linked for better performance with Purethane C-CAT 104. Product can achieve good bonds without a heated nip.	45%	26 sec Zahn #2
Purethane™ A1083	Laminating adhesive	Adhesive designed for dry bond laminations, especially general purpose packages including freezer storage and many metalized film applications and has excellent COF stability, low odor retention, and heat resistance. Add 1-3% Purethane C-CAT 104 Cross-linker when additional moisture, chemical, temperature or product resistance is required. Excellent choice for zippered freezer applications.	42%	25 sec Zahn #2
Purethane™ A1090	Laminating adhesive	Adhesive designed for dry bond laminations, especially thick gauge films, and has excellent COF stability, low odor retention, and high heat resistance. Add 1-3% Purethane C-CAT 104 Cross-linker when additional moisture, chemical, temperature or product resistance is required. Excellent choice for high heat pouching processes or laminating zippers into the package.	42%	25 sec Zahn #2

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# Adhesives Product Guide

## Water-Based Laminating Adhesives (continued)

Ashland's full line of urethane-acrylic and polyester-based laminating adhesives are vertically integrated manufacturing processes allow precise control over the properties and performance of the adhesive for flexible packaging applications. Products designed for wide web and narrow/midweb flexo applications where heated nips are not available. A proprietary epoxide cross-linker can be used that is CFR 21 175.105 safe for most applications to improve bond strength and product resistance. Certain products are designed for 1-component application where green bonds to films and metalized films are suitable for label and flow wrap applications.

Product Name	Product Description	Product Details	Solids	Viscosity
Purethane™ A4002	Laminating adhesive	Laminating adhesive designed for dry bond laminations and has excellent COF stability, low odor retention, and high heat resistance. Add 1-3% Purethane C-CAT 104 cross-linker when additional moisture, chemical, temperature or product resistance is required. Excellent choice for packaging aggressive foods.	37%	22 sec Zahn #2
Purethane™ A4022	Laminating adhesive	Laminating adhesive designed for dry bond laminations with excellent COF stability, low odor retention, and high heat resistance. Add 1-3% Purethane C-CAT 104 cross-linker when additional moisture, chemical, temperature or product resistance is required. Excellent choice for wet environment exposure.	37%	23 sec Zahn #2
Purethane™ A4025	Laminating adhesive	Adhesive designed for dry bond laminations, especially metalized film structures that are closed with cold seal adhesives or low heat during forming and filling processes. Add 1-3% Purethane C-CAT 104 Cross-linker when additional moisture resistance is required. Not recommended for high heat processes, laminating zippers, or aggressive ingredient packaging.		
Purethane C-CAT 104	Cross-linker	C-CAT 104 is an epoxy functional cross-linking agent to be used with Purethane laminating adhesives to improve bond strength, product, moisture and chemical resistance and to improve temperature resistance.		

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# Adhesives Product Guide

## Water-based Bonding / Laminating Adhesives and PSAs

Product Name	Product Description	Technology	Product Details	Viscosity	Cure Rate/Solids
Purethane™ 1243M	Foam Pressure Sensitive Adhesive	WB	WB rubber-based pressure sensitive adhesive coating engineered for bonding flexible fabrics and leathers.	5000 cps	55%
Purethane™ 174	Ultra Removable Pressure Sensitive Adhesive	WB	WB pressure sensitive adhesive engineered for ultra removability for applications like removable plastic films or sheeting on consumer products. Product designed to be cross-linked with Purekote 21412.	30 cps	46.5%
Purethane™ 20000C	Dry Release Adhesive	WB	WB adhesive engineered for use as a destruct bond adhesive for paper to paper or can be dry laminated to a UV cured coating, such as PureRad FT35HG, that forms a true dry peel for applications like removable coupons.	45 seconds, Zahn #3	54%
Purethane™ 23309A	High Tack Pressure Sensitive Adhesive	WB	WB pressure sensitive adhesive based on acrylic chemistry engineered to meet FDA direct food contact as resealable PSA for food packaging applications.	2200 cps	56%
Purethane™ 25200B	Spine Glue	WB	WB adhesive based on PVA chemistry engineered to serve as a glue for binding magazines or paper and/or board substrates.	650 cps	52%

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# Adhesives Product Guide

## Water-Based Heat Seal Coatings

Ashland's heat seal coatings are expert formulations of materials to give specific properties for common heat sealing requirements in food, medical and industrial packaging applications. Ashland has a broad range of products and expertise to develop custom solutions for any application methodology.

Product Name	Product Description	Product Details	Solids	Viscosity
Pureseal™ 23470J	Heat seal	Heat seal coating based on polyurethane chemistry. Product designed for laminating films such as polyester to printed and unprinted substrates. Product bonds well to Indigo printed substrates and seals well over vinyl substrates.	42%	100 cps
Pureseal™ 23470K	Heat Seal – Indigo Inks	WB heat seal coating based on urethane chemistry engineered to bond to digital inks, particularly Indigo inks for applications such as menus, desktop or industrial laminators, or film to paper such as folders, or fold-over blister packaging applications. Product specifically suitable for polyester films, and PETG films. Product has a higher gloss than HS1020 because of lower heat seal initiation temperature.	40%	200 cps
Pureseal™ 23519C	Heat seal for Shrink Sleeves	Heat seal coating based on novel chemistry. Material turns from benign opaque white coating to an aggressive pressure sensitive adhesive when activated by heat between 70C and 80C. Product is ideal for use as a shrink sleeve adhesive to prevent sleeve removal from container.	46-55%	450-650 cps
Pureseal™ 22832G	Heat seal	Heat seal coating based on high molecular weight polymer dispersions. Product is designed for bonding films, aluminum foil and most any paper substrates.	40%	750 cps
Pureseal™ 23373	Heat seal	Heat seal coating based on polyurethane chemistry. Product designed laminating films such as polyester to printed and unprinted substrates. Product is ideal for over-laminating for polycarbonate and PVC cards.	42%	100 cps
Pureseal™ 25065	Heat seal	Heat seal coating designed for paper to paper laminations.	50%	400 cps

# Adhesives Product Guide

## Water-Based Cold Seal / Cohesive Coatings

Ashland's range of cold seal adhesives can be used in food, medical, and industrial applications as well for specialty converting operations that require cohesive coating properties. Products are expertly engineered and proven based on natural rubber latex, semi-synthetic and all synthetic variations for both gravure and flexo coating methods.

Product Name	Product Description	Product Details	Solids	Viscosity
Pureseal™ 21108	Screenable Cold Seal	WB rubber-based cohesive that can be screen applied. Product designed for use in applications such as specialty envelopes.	44%	1900 cps
Pureseal™ 21216C	Cold Seal - Medical	WB rubber-based cohesive engineered for medical packaging applications such as band-aids and gloves.	54%	450 cps
Pureseal™ 22717A	Cold seal	Natural rubber latex based cohesive designed to be used as an aggressive sealable coating for food, confection and flow wrap packaging applications. Product can be gravure or rod coated and can be pattern applied.	54%	250 cps
Pureseal™ 23499B	Cold Seal - Food/Flexible Packaging	WB rubber-based and semi-synthetic cohesive engineered for flexible packaging applications and formulated for flexo application. Product meets most FDA requirements for food packaging.	52%	2400 cps
Pureseal™ 4015	Cold seal	Natural rubber latex based cohesive designed for coating polyethylene films used in industrial packaging applications.	59%	150 cps
Pureseal™ 4027	Cold seal / Industrial/Paper	Natural rubber latex based cohesive designed for coating paper substrates used in industrial packaging applications.	61%	110 cps
Pureseal™ 4035	Cold Seal / Resealable	WB rubber-based semi-synthetic cohesive designed for low coat weight application where temporary seal and reseal properties are desired.	58.5%	190 cps

# Adhesives Product Guide

## Solvent Based Laminating Adhesives

Ashland's solvent-based laminating adhesives are designed for both non-food and indirect-food applications. They have long pot life, short cure time, excellent green bond and are ready-to-slit immediately after lamination. Ashland's regulatory expertise can provide the guidance and service to ensure your food packaging application is tested and validated for use in your specific applications.

Product Name	Product Description	Product Details	Viscosity
Solvester™ 2120	Laminating Adhesive	Polyester based laminating adhesive engineered for wide web laminating applications, works well with PE/PET/MPET/Foil substrates. Initial green bonds starting from 200h to over 500 grams per linear inch depending on lamination materials. Used with Solvester 460 cross-linker system.	3500 cps
Solvester™ 2130	Laminating Adhesive	Polyester based laminating adhesive engineered for wide web laminating applications, works well with PE/PET/MPET/Foil substrates. Initial green bonds from 200 to over 500 grams per linear inch depending on lamination materials. Used with Solvester 110 cross-linker system.	3500 cps



# Adhesives Product Guide

## Two-Component Solvent-Free Aromatic Urethane

Ashland's solvent-free laminating adhesives are designed for food applications that cater to the need to balance and have the flexibility between long pot life, rapid decay of aromatic amines, low total migration, low misting at high line speeds, and easy clean-ability that meet fit-for-use. Ashland's regulatory expertise can provide the guidance and service to ensure your food packaging application is tested and validated for use in your specific applications.

Product Name	Product Description	Product Details	Viscosity
Purelam™ A9500/B9240	Solvent-free laminating adhesive	Super Ultra Low Migration - suitable for all food types (i.e. fatty, liquid, dry). Excellent bonds to both clear and metalized films. Line speeds >1,300 ft. per minutes with no misting. Fast curing - slit or run second lamination pass within hours.	A9500 – 2,000 cps B9240 – 1,500 cps
Purelam™ A6000/B6050	Laminating adhesive	High performance adhesive that possesses a long pot-life, no misting at high line speeds, best-in-class clean-ability and bonds extremely well to wide array of films and metalized films, foils and PLA. Adhesive has excellent chemical and thermal resistance, clarity and resists tunneling due its inherent bonding characteristics.	A6000 - 1,300 cps B6050 - 2,000 cps
Purelam™ A9170/B6050	Solvent-free laminating adhesive	Laminating adhesive designed specifically for metal decaling problems.	A9170 - 8,500 cps B6050 - 2,000 cps
Purelam™ A9180/B6050	Solvent-free laminating adhesive	Laminating adhesive designed for paper-to-film laminating. Adhesive eliminates need for moisture to cure, need for misting bars, excessive pre-heating, and high temp/moisture rooms to facilitate speed of cure. Adhesive allows fast line speeds and consistent cure rates regardless of ambient plant temperatures. Adhesive has excellent bonds to uncoated paper and films, as well as metal and foil.	A9180 – 13,500 cps B6050 – 2,000 cps

# Adhesives Product Guide

## Two-Component Solvent-Free Aliphatic Urethane

Ashland's line of aliphatic urethane adhesives exhibit unique characteristic of several hour long pot lives without increasing in viscosity. These products cure rapidly at specific time periods from initial mixing. Adhesive formulations are well-suited for food packaging applications and are inherently weather and UV resistant.

Brand Name	Product Description	Product Details	Viscosity
Purelam Fastcure™ A110/B230	Solvent-free laminating adhesive	Laminating adhesive has extremely fast full cure properties with long pot-life of 3+ hours. Exhibits excellent chemical and product resistance with high resistance to UV and weather resistance.	A110 - 2,250 cps B230 - 1,800 cps
Purelam Fastcure™ A110/B240	Solvent-free laminating adhesive	Laminating adhesive has extremely fast full cure properties with long pot-life of 3+ hours. Exhibits excellent chemical and product resistance with high resistance to UV and weather resistance. Adhesive ideal when used with hard to wet-out and bond to films that require high heat resistance characteristics.	A110 - 2,250 cps B240 - 1,000 cps

# Adhesives Product Guide

## EB Curable Adhesives

Radiation curable laminating adhesives are based on expert design and proprietary monomer technology. These products have been migration tested for fit-for-use for food packaging applications.

Brand Name	Product Name	Viscosity	Product Description
PureRad™ 51005NAF	Laminating Adhesive	250 cps	EB adhesive provides excellent bonding to a variety of corona or chemically treated packaging films including, PP, PE, PET, Nylon and EVA. Provides excellent bonding to metallized film, foil and paper substrates. Excellent results with films printed with a wide variety of inks used in flexible packaging. Excellent clarity and little to no odor upon curing.
PureRad™ 51835	Laminating Adhesive/ Non-Corrosive	630 cps	EB adhesive provides excellent bonding to a variety of corona or chemically treated packaging films including, PP, PE, PET, Nylon and EVA. Provides excellent bonding to metallized film, foil and paper substrates. Excellent results with films printed with a wide variety of inks used in flexible packaging. Excellent clarity and little to no odor upon curing.
PureRad™ 50988C	Laminating Adhesive/ Nestle Compliant	675 cps	EB laminating adhesive with FCN #642 is Nestle Compliant and used for flexible food packaging. Provides excellent bonding to a variety of corona or chemically treated packaging films including, PP, PE, PET, Nylon and EVA. Provides excellent bonding to metallized film, foil and paper substrates. Excellent results with films printed with a wide variety of inks used in flexible packaging. Excellent clarity and little to no odor upon curing.

# Adhesives Product Guide

## UV-Bonding Laminating Adhesives/Coatings/PSAs

Product Name	Product Description	Technology	Product Details	Viscosity	Cure Rate/Solids
PureRad™ 15615LA	Film laminating adhesive	UV	Premium performance UV curable laminating adhesive engineered for cure efficiency, adhesion for most any film to film or film to paper laminations, and minimal migration including incorporation of polymeric photo initiators.	270 cps	275 fpm
PureRad 17493	Breakaway coating	UV	UV curable coating engineered as a primer for bonding to other adhesive applied substrates that will "break away" in downstream applications or uses.	150 cps	75 fpm
PureRad™ 19013	Pressure Sensitive Adhesive	UV	UV curable PSA engineered for medium tack and high cohesive strength compared to other PSA's making it ideal for laminations that will go over tight and small radiuses, such as labels for bottles/containers.	1900 cps	100 fpm
PureRad™ 19443	Laminating Adhesive	UV	Premium performance UV curable laminating adhesive with expert combination of high performance mono and diacrylated monomers, aggressive tackifying resins and high performance photo initiators. Adhesive can bond at high line speeds any film to film or film to paper combinations can cure through the most challenging films such as PET.	350 cps	450 fpm
PureRad™ 51156H	Removable Pressure Sensitive Adhesive	UV	UV curable PSA engineered for clean peel applications with expert combination of multifunctional acrylated monomers, tackifying resins and soft acrylated oligomers. Initial adhesion set up is strong and over following days sets up allowing very clean and smooth removal.	1200 cps	125 fpm

# Adhesives Product Guide

## UV Bonding / Laminating Adhesives/PSAs (continued)

Product Name	Product Description	Technology	Product Details	Viscosity	Cure Rate/Solids
PureRad™ 18670	Pressure Sensitive Adhesive	UV	UV curable PSA engineered for high tack and medium cohesive strength compared to other PSA's making it ideal for general purpose laminating of opaque substrates or general purpose PSA label-type applications.	2200 cps	100 fpm
PureRad™ 19321	High Tack Pressure Sensitive Adhesive	UV	UV curable PSA engineered for very high tack and low cohesive strength making it ideal for laminating opaque substrates.	1600 cps	100 fpm
PureRad™ 51982B	Screenable Pressure Sensitive Adhesive	UV	UV curable PSA engineered for screen applications requiring thick depositions for applications like membrane switches or wall graphics. Product has high loop tack strength, high peel strength and moderate shear strength.	3700 cps	170 mj/cm
PureRad™ FA72TC	Cold Foil	UV	Cold foil transfer adhesive engineered for excellent and clean transfer of foil to film surface.	900 cps	275 fpm

# Adhesives Product Guide

## UV Curable Laminating Adhesives

UV laminating adhesives designed for film to film applications. These are wet laminating adhesives, where the adhesive is applied, the lamination is made, and the UV adhesive is cured through the clear overlamine.

Product Code	Product Description	Viscosity, Brookfield RVT	Cure Speed (fpm)	Product Details	BP Free(*)
PureRad™ 11990LA	Laminating Adhesive	350	325	Best in class premium performance laminating adhesive engineered to bond any combination of film to film or film to paper substrates.	X
PureRad™ 53522C	Film Laminating Adhesive	400	275	Hybrid blend of mono-acrylated monomers, functional monomers and aggressive tackifiers to make a laminating adhesive that has a wide range of substrate adhesion and good processability. Suggest mixing prior to use.	X
PureRad™ FA331FLA	Laminating Adhesive	420	300	Hybrid blend of mono-acrylated monomers, functional monomers and aggressive tackifiers to make a laminating adhesive that has a wide range of substrate adhesion and good processability. Suggest mixing prior to use.	X
PureRad™ FA34LA	Laminating Adhesive	350	400	Laminating adhesive engineered with a unique combination of monomers and adhesion promoters and tackifiers specifically for high speed film to paper laminations.	X
PureRad™ 12000LA	Laminating Adhesive	340	275	General purpose and economical laminating adhesive designed to provide acceptable adhesion to most film to film and film to paper applications.	X

# Adhesives Product Guide

## UV Curable Pressure Sensitive Adhesives

UV curable PSA adhesives can be used to create a variety of pressure sensitive labels and structures. These products can also be used for dry laminating, where the adhesive is UV cured prior to laminating.

Product Code	Product Description	Viscosity, Brookfield RVT	Cure Speed (fpm)	Product Details	BP Free(*)
PureRad™ 15900	Pressure Sensitive Adhesive	1000	125	PSA engineered for moderate adhesion to most any release coatings and easy and clean removal.	
PureRad™ 16950	Pressure Sensitive Adhesive	1200	100	General purpose pressure sensitive adhesive designed for use in coupon type label applications in conjunction with UV release coatings.	X
PureRad™ 18667	Pressure Sensitive Adhesive	2000	125	Aggressive tack and adhesion PSA engineered as an expert blend of acrylated monomers and compatibilizers with high performance tackifying polymers.	

# Adhesives Product Guide

## UV LED Dual Cure Adhesives

Product Name	Product Description	Technology	Product Details	Viscosity	Cure Rate/Solids
PureRad™ 53904	Laminating Adh Dual Cure (HgUV & UV LED) Low Migration	LED	A non-pressure sensitive laminating adhesive designed to be printed, wet laminated, and cured by UV LED and HgUV through transparent films. Optimized to bond polyester (PET) and treated clear polypropylene (PP) film to treated or metalized PP base films and clay-coated paper stocks. Other print-treated base films or clear overlaminates may also be suitable. Cured adhesive films exhibit little to no odor.	270 cps	200 fpm cure rate
PureRad™ 53964	Laminating Adh Dual Cure (HgUV & UV LED) Low Migration	LED	A non-pressure sensitive laminating adhesive designed to be printed, wet laminated, and cured by UV LED and HgUV through transparent films. Optimized to bond polyester (PET) film to aluminum foil or metalized substrates. Other print-treated base films or clear overlaminates may also be suitable. Cured adhesive films exhibit little to no odor. Formulated for improved flow and wet out on wide range of films	425 cps	250 fpm application rate
PureRad™ 53972	Laminating Adh Dual Cure (HgUV & UV LED) Low Migration Nestle Compliant	LED	Nestle compliant non-pressure sensitive laminating adhesive designed to be printed, wet laminated, and cured by UV LED and HgUV through transparent films. Optimized to bond polyester (PET) film to aluminum foil or metalized substrates. Other print-treated base films or clear overlaminates may also be suitable. Cured adhesive films exhibit little to no odor. Formulated for improved flow and wet out on wide range of films	425 cps	250 fpm application rate
PureRad™ 53948	Cold Foil Adhesive Dual Cure (HgUV & UV LED)	LED	Dual Cure (HgUV & UV LED)		
PureRad™ 53912	Pressure Sensitive Adhesive Dual Cure (HgUV & UV LED)	LED	Dual Cure (HgUV & UV LED)		



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