



PREMIUM RANGE OF FOOTWEAR ADHESIVES

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Polygrip Footwear brochure/01-21/Heshli





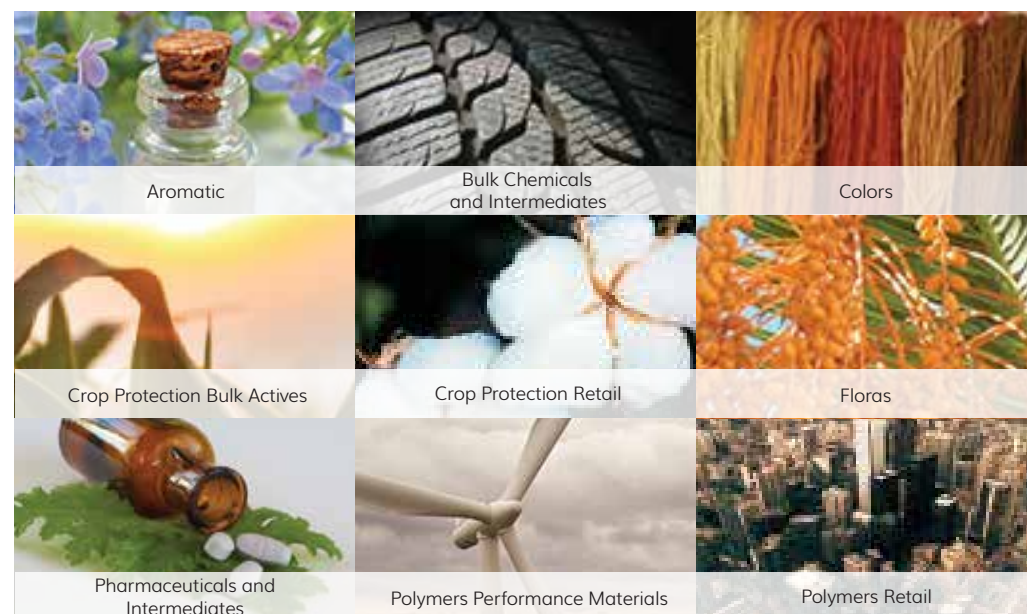
bird's eye view of Atul complex

LEGACY

Founded in 1947 by a legendary Indian, Mr Kasturbhai Lalbhai, Atul Ltd (Atul) is one of the first chemical companies of independent India. It is the first private sector company of the country to be inaugurated by the first Prime Minister, Pandit Jawaharlal Nehru.

PROFILE

Atul is an integrated chemical company manufacturing ~ 900 products and ~ 400 formulations from basic chemicals. The Company started its journey over seven decades ago and has many firsts to its credit from textile dyes to tissue culture raised date palm plants, as it serves about 4,000 customers belonging to around 30 industries. It manages complex chemical processes in a responsible way and has established fruitful and time-tested collaborations with leading multinational companies of the world.



POLYMERS BUSINESS

Atul is a pioneer in manufacturing epoxy resins in India. The Company is one of the largest manufacturers of epoxy resins and hardeners in the country. It has a portfolio of world-class products that find applications in stone processing, construction chemicals, bangles, handicraft, aerospace, defence, high performance paints, sport goods etc. Epoxy and allied products are marketed and sold under the brand name of Lapox.

To cater to the growing demand in the automobile and industrial maintenance market, a range of maintenance products are being marketed under the brand name of Lacare.

In 2010, Atul acquired Polygrip, to market synthetic rubber and polyurethane based adhesives in India. Today, it is an established adhesive brand in the retail market in India, with a diverse range of value-added products. Polygrip has a wide range of products for various applications in footwear, foam and furnishing, furniture, flooring, HVAC and automobiles.



FOOTWEAR INDUSTRY



In simple terms, footwear is nothing but garments worn on the feet. What was once a component of basic necessity has now become a fashion statement across all age groups. Apart from serving ease of movement and avoiding injuries, the main purpose of footwear is protecting one's feet against dangers of the environment, i.e. rough ground texture and extreme climate temperature.

Footwear is in use since early human civilisation and was looked upon as a symbol of power and wealth. However in recent times, footwear has become more of a fashion accessory, thus creating a global rise in demand for it.

Modern footwear is crafted using a variety of materials such as leather, fabric, rubber and plastic which are then categorised into several types of footwear based on the fashion preferences of the end users.

- Sport shoes
- Dress shoes
- Formal shoes
- Sandals
- Loafers
- High heels
- Sneakers
- Ballet shoes
- Slippers
- Leather shoes
- Rain boots
- Winter boots

While fashion is the driving force of sales in the footwear industry, durability and quality are key areas that are taken into account while footwear manufacturers design footwear and select materials for it.

Each raw material used in the manufacturing process is carefully selected to ensure quality and durability of the final product. A range of materials are used along with adhesives while sewing, lasting, assembling, finishing and packing. Selecting the right adhesive plays a crucial role in footwear manufacturing process.

The purpose of the adhesive is to fill gaps and also act as a connecting bridge between the materials intended to be bonded. Hence, it becomes pertinent to manufacture footwear using standard and quality adhesives which ensure durability and high bonding strength to the various substrates used.

With 43 years of expertise in synthetic rubber and PU adhesives, Polygrip is one of the leading adhesive brands in India in footwear manufacturing. Polygrip is happy to serve legendary brands in the footwear industry.



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SYNTHETIC RUBBER BASED ADHESIVES

Ideal for upper making

Polygrip S 709 is a dark brown coloured, synthetic rubber based adhesive. It is a multi-purpose adhesive suitable for bonding a variety of substrates such as rubber sole, leather sole, EVA, rexine and upper sole.

Features

Long tack retention time
Excellent tack quality
Mild smell
Good coverage
Excellent water resistance
High bond strength

Applications

Footwear uppers and socks
Insoles
Ladies' sandals
Purses and bags

Typical technical data

Test parameters	Typical range
Colour and appearance	Dark brown, medium viscous liquid
Density at 30° C	0.80 - 0.84 g/ml
Viscosity at 30° C	1,000 - 1,500 cPs
*Tack retention time	Maximum 30 minutes

*Tack retention time (open time) is the time required for evaporation of solvent, once a thin film of adhesive is applied on the surface. It may vary depending upon room temperature and humidity.

Method of application

- 1 stir the adhesive well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains.
- 3 uniformly apply Polygrip S 709 on both the surfaces.
- 4 allow the solvent to evaporate from the adhesive layer for approximately 5 - 10 minutes at room temperature to develop tack.
- 5 press both the surfaces together ensuring uniform contact once the adhesive becomes touch-dry.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNITS

100 mL

200 mL

500 mL

1 L

2 L

5 L

30 L

Premium grade for upper making

Polygrip SP 809 is a yellow coloured, synthetic rubber based adhesive. It is a multi-purpose adhesive suitable for bonding a variety of substrates such as rubber sole, leather sole, EVA sole and rexine.

Features

- High bond strength
- Excellent tack quality
- Mild smell
- Good coverage
- Excellent water resistance

Applications

- Men's sandals
- Casual shoes
- Safety shoes and heavy duty footwear
- Ladies' chappals

Typical technical data

Test parameters	Typical range
Colour and appearance	Light yellow, medium viscous liquid
Density at 30° C	0.82 - 0.86 g/ml
Viscosity at 30° C	1,050 - 1,500 cPs
*Tack retention time	Maximum 30 minutes

*Tack retention time (open time) is the time required for evaporation of solvent, once a thin film of adhesive is applied on the surface. It may vary depending upon room temperature and humidity.

Method of application

- 1 stir the adhesive well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains.
- 3 uniformly apply Polygrip SP on both the surfaces.
- 4 allow the solvents to evaporate from the adhesive layer for approximately 5 - 10 minutes at room temperature to develop tack.
- 5 press both the surfaces together ensuring uniform contact once the adhesive becomes touch-dry.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNITS
5 L
30 L

Ideal for sole attachment and socks application in footwear

Polygrip PLUS 909 is a dark brown coloured, synthetic rubber based adhesive. It is a multi-purpose adhesive suitable for bonding a variety of substrates such as rubber sole, leather sole, EVA, rexine and upper sole. It is a premium product for world class footwear items having excellent durable bond strength, good water and temperature resistance.

Features

- High bond strength
- Excellent tack quality
- Mild smell
- Good coverage
- Excellent water resistance

Applications

- Socks making
- Uppers
- Side lasting

Typical technical data

Test parameters	Typical range
Colour and appearance	Brownish yellow, viscous liquid
Density at 30° C	0.83 - 0.89 g/ml
Viscosity at 30° C	1,800 - 2,600 cPs
*Tack retention time	Maximum 30 minutes

*Tack retention time (open time) is the time required for evaporation of solvent, once a thin film of adhesive is applied on the surface. It may vary depending upon room temperature and humidity.

Method of application

- 1 stir the adhesive well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains.
- 3 uniformly apply Polygrip PLUS 909 on both the surfaces.
- 4 allow the solvents to evaporate from the adhesive layer for approximately 5 - 10 minutes at room temperature to develop tack.
- 5 press both the surfaces together ensuring uniform contact once the adhesive becomes touch-dry.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNITS
100 mL
200 mL
500 mL
1 L
5 L
30 L

Ideal for sole attachment and socks application in light coloured footwear

Polygrip EXPO 1009 is a golden yellow, fast curing and high heat resistant synthetic rubber based adhesive. It is versatile and suitable for most substrates such as rubber, leather, rexine and foam. It is suitable for adhering similar and dissimilar substrates to achieve a strong bond. High coverage can be achieved if used at appropriate environment and processing condition.

Features

- High bond strength
- High coverage
- Mild smell
- Rapid strength development
- Low absorption on foam

Applications

- Shoes manufacturing
- Bags and purses

Typical technical data

Test parameters	Typical range
Colour and appearance	Golden yellow
Density at 30° C	0.85 - 0.89 g/ml
Viscosity at 30° C	2,000 - 3,500 cPs
*Tack retention time	Maximum 30 minutes

*Tack retention time (open time) is the time required for evaporation of solvent, once a thin film of adhesive is applied on the surface. It may vary depending upon room temperature and humidity.

Method of application

- 1 stir the adhesive well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains.
- 3 uniformly apply Polygrip EXPO 1009 on both the surfaces.
- 4 allow the solvents to evaporate from the adhesive layer for approximately 5 - 10 minutes at room temperature to develop tack.
- 5 press both the surfaces together ensuring uniform contact once the adhesive becomes touch-dry.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNIT

30 L

Translucent adhesive for light coloured leather application

Polygrip WTP 888 is a translucent synthetic rubber based adhesive. This adhesive is versatile and suitable for most substrates including permanent bonding of leather to leather, leather to soles made of MCR, EVA, rubber, cork bonding of foam to rexine, metal and plastics in furniture.

Features

- Translucent
- High bond strength

Applications

- White leather articles
- Footwear boxes

Typical technical data

Test parameters	Typical range
Colour and appearance	Whitish
Density at 30° C	0.80 - 0.84 g/ml
Viscosity at 30° C	1,050 - 1,500 cPs
*Tack retention time	Maximum 30 minutes

*Tack retention time (open time) is the time required for evaporation of solvent, once a thin film of adhesive is applied on the surface. It may vary depending upon room temperature and humidity.

Method of application

- 1 stir the adhesive well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains.
- 3 uniformly apply Polygrip WTP 888 on both the surfaces with the help of a brush or appropriate machine.
- 4 apply second coat (if required) after 5 - 10 minutes of the first coat.
- 5 allow the solvents to evaporate from the adhesive layer for approximately 5 - 10 minutes at room temperature to develop tack. Optimum bond strength can be achieved, if open time* is not more than 30 minutes.
- 6 press both the surfaces together ensuring uniform contact once the adhesive becomes touch-dry.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNIT

30 L

*Open time is subjective and depends on environmental conditions such as temperature, humidity and foreign particles in the air.

Single side application and long tack retention adhesive with pale brown colour

Polygrip SS 999 is a pale brown coloured, synthetic rubber based contact adhesive. This product is designed to provide long tack retention time, excellent tack and light colour. It is recommended for bonding various substrates such as EVA, foam, leather and canvas for single side applications in footwear industry.

Features

Long tack retention time
Single side application
No benzene
Light colour

Applications

Footwear socks
Purses and wallets
Leather belts

Typical technical data

Test parameters	Typical range
Colour and appearance	Pale brown, viscous liquid
Density at 30° C	0.83 - 0.88 g/ml
Viscosity at 30° C	1,300 - 1,700 cPs
*Tack retention time	Maximum 12 hours

*Tack retention time (open time) is the time required for evaporation of solvent, once a thin film of adhesive is applied on the surface. It may vary depending upon room temperature and humidity.

Method of application

- 1 stir the adhesive well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains.
- 3 uniformly apply Polygrip SS 999 on single side of the surface with the help of a brush, spatula or any suitable tool.
- 4 allow the solvents to evaporate from the adhesive layer for approximately 5 - 10 minutes at room temperature to develop tack.
- 5 in case of an absorbing substrate, apply second coat and allow drying for 5 - 10 minutes.
- 6 press both the surfaces together ensuring uniform contact once the adhesive becomes touch-dry.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNIT

30 L

Single side application and long tack retention adhesive with light colour

Polygrip SR 100 is a pale yellow coloured, synthetic rubber based contact adhesive. This product is designed to provide long open time, excellent tack and light colour. It is recommended for bonding various substrates such as EVA, foam, leather and canvas for single side applications in footwear industry.

Features

Long tack retention time
Single side application
No benzene
Light colour

Applications

Footwear socks
Purses and wallets
Leather belts
Light coloured leather articles

Typical technical data

Test parameters	Typical range
Colour and appearance	Pale yellow, viscous liquid
Density at 30° C	0.83 - 0.88 g/ml
Viscosity at 30° C	1,800 - 2,200 cPs
*Tack retention time	Maximum 12 hours

*Tack retention time (open time) is the time required for evaporation of solvent, once a thin film of adhesive is applied on the surface. It may vary depending upon room temperature and humidity.

Method of application

- 1 stir the adhesive well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains.
- 3 uniformly apply Polygrip SR 100 on single side of surface with the help of a brush, spatula or any suitable tool.
- 4 allow the solvents to evaporate from the adhesive layer for approximately 5 - 10 minutes at room temperature to develop tack.
- 5 in case of an absorbing substrate, apply second coat and allow drying for 5 - 10 minutes.
- 6 press both the surfaces together ensuring uniform contact once the adhesive becomes touch-dry.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNIT

30 L



NATURAL RUBBER ADHESIVE

Ideal for upper making

Polygrip NR is a natural rubber based contact adhesive. It is recommended for temporary bonding required for holding substrates before stitching. Polygrip NR is recommended to bond various soft substrates such as leather, foam and fabric.

Features

Good coverage
Fast drying
Mild smell
Ease of application

Applications

Footwear
Luggage
Leather articles

Typical technical data

Test parameters	Typical range
Colour and appearance	Translucent and low viscous liquid
Density at 30° C	0.63 - 0.72 g/ml
Viscosity at 30° C	600 - 1,200 cPs

Method of application

- ① stir the adhesive well.
- ② ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains.
- ③ uniformly apply Polygrip NR on single side of surface in a single direction with the help of a brush, spatula or any other suitable tool. Allow an open time* of approximately 2 - 3 minutes depending on room temperature.
- ④ press both the surfaces together ensuring uniform contact once the adhesive becomes touch-dry.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

**PACKAGING
UNIT**

30 L

*Open time is subjective and depends on environmental conditions such as temperature, humidity and foreign particles in the air.



TOLUENE-FREE ADHESIVES

Ideal for temporary bonding of leather products

Polygrip NR (TF) is a natural rubber (crape solution) based, toluene-free adhesive. Polygrip NR (TF) is recommended for temporary bonding before stitching. This adhesive is suitable for substrates such as leather, foam and fabric.

Features

Good coverage
Fast drying
Mild smell
Ease of application

Applications

Footwear
Luggage
Small leather articles

Typical technical data

Test parameters	Typical range
Colour and appearance	Whitish
Density at 30° C	0.63 - 0.72 g/ml
Viscosity at 30° C	600 - 1,200 cPs

Method of application

- 1 stir the adhesive well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains.
- 3 uniformly apply Polygrip NR (TF) on both the surfaces with the help of a brush or an appropriate machine.
- 4 apply second coat (if required) after 5 - 10 minutes of the first coat.
- 5 allow the solvents to evaporate from the adhesive layer for approximately 5 - 10 minutes at room temperature to develop tack.
Optimum bond strength can be achieved if open time* is not more than 30 minutes.
- 6 press both the surfaces together ensuring uniform contact once the adhesive becomes touch-dry.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

*Open time is subjective and depends on environmental conditions such as temperature, humidity and foreign particles in the air.

**PACKAGING
UNIT**

30 L

Ideal for fast drying and high heat resistant adhesive

Polygrip EXPO 1009 (TF) is a golden yellow, fast curing and high heat resistant, toluene-free, synthetic rubber based adhesive. This adhesive is versatile and suitable for substrates including rubber, leather, wood, rexine, canvas and foam. It is also suitable for adhering similar and dissimilar substrates to achieve a strong bond. High coverage can be achieved if used at appropriate environmental and processing conditions.

Features

- Heat resistant bond
- High coverage
- Mild smell
- Rapid strength development
- Low absorption on foam

Applications

- Shoes manufacturing
- Leather articles

Typical technical data

Test parameters	Typical range
Colour and appearance	Golden yellow
Density at 30° C	0.87 - 0.92 g/ml
Viscosity at 30° C	1,800 - 3,000 cPs
*Tack retention time	Maximum 30 minutes

*Tack retention time (open time) is the time required for evaporation of solvent, once a thin film of adhesive is applied on the surface. It may vary depending upon room temperature and humidity.

Method of application

- 1 stir the adhesive well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains.
- 3 uniformly apply Polygrip EXPO 1009 (TF) on both the surfaces with the help of a brush, spatula or any suitable tool.
- 4 allow the solvents to evaporate from the adhesive layer for approximately 5 - 10 minutes at room temperature to develop tack.
- 5 press both the surfaces together ensuring uniform contact once the adhesive becomes touch-dry.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNIT

30 L



**CLEANER, PRIMERS
AND HARDENERS**

Ideal for cleaning of PVC and PU substrates

Polygrip PG 60 is a cleaner, recommended for cleaning of PVC and PU substrates. It removes residual plasticisers, mould release agents, oil, grease and dirt from the surface. The bond strength can be improved by thoroughly cleaning with Polygrip PG 60.

Features

- Long tack retention time
- Single side application
- No benzene
- Light colour

Application

Cleaning | priming of footwear soles

Typical technical data

Test parameters	Typical range
Colour and appearance	Transparent liquid
Density at 30° C	0.75 - 0.80 g/mL

Method of application

- 1 stir the cleaner well.
- 2 use of a padding cloth, sponge or brush is recommended for application of Polygrip PG 60.
- 3 allow the substrates to dry for 2 - 3 minutes after application of Polygrip PG 60.

PACKAGING UNITS

1 L

30 L

TPR primer

Polygrip PG 30 is a two-component system of powder and liquid for TPR sole | rubber | cork surface.

Typical technical data

Test parameters	Typical range	
	PG 30 solvent	PG 30 powder
Colour and appearance	Clear liquid	White powder
Density at 30° C	0.86 - 0.89 g/ml	

Method of application

- 1 stir the primer well.
- 2 2.5% (w/v) of Polygrip PG 30 powder is mixed with Polygrip PG 30 solvent in a glass or aluminium bottle. This mixture is to be used within 24 hours.
- 3 TPR soles are first to be cleaned with a solvent to remove dust and oil. If required, clean the substrate with Polygrip PG 60 cleaner and allow it to dry for 10 minutes.
- 4 the cleaned soles are then to be coated with the prepared primer solution.
- 5 treated soles should be kept for drying at ambient temperature for 30 - 40 minutes.
- 6 the recommended PU adhesive system needs to be applied on treated soles.

PACKAGING UNITS

Polygrip PG 30 (solvent):
1 L and 30 L

Polygrip PG 30 (powder): 25 g

EVA primer

Polygrip PG 40 is a transparent liquid recommended as a primer for EVA substrates before adhesive application.

Typical technical data

Test parameters	Typical range
Colour and appearance	Transparent liquid
Density at 30° C	0.82 - 0.86 g/mL

Method of application

- 1 stir the primer well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains. Polygrip PG 60 is recommended for cleaning purpose.
- 3 use of a padding cloth, sponge or brush is recommended for application of Polygrip PG 40.
- 4 allow it to dry for 3 - 5 minutes at ambient temperature.
- 5 the recommended PU adhesive system needs to be applied on treated soles.

PACKAGING UNITS
1 L
30 L

Primer for moulded EVA

Polygrip PT PRIMER is a transparent liquid recommended as a primer for EVA substrates before adhesive application for improving bond strength. It is especially designed for printing on EVA surface.

Typical technical data

Test parameters	Typical range
Colour and appearance	Transparent liquid
Density at 30° C	0.795 - 0.815 g/ml

Method of application

- 1 stir the primer well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains. Polygrip PG 60 is recommended for cleaning purpose.
- 3 use of a padding cloth, sponge or brush is recommended for application of Polygrip PT PRIMER.
- 4 allow it to dry for 3 - 5 minutes at ambient temperature.

PACKAGING UNITS
30 L

Primer for PVC to leather bonding

Polygrip APP 810 is a colourless liquid recommended as a primer for oily leather with composition of hardener. It is ideal for PVC | PU injection rubber footwear.

Typical technical data

Test parameters	Typical range
Colour and appearance	Colourless liquid
Density at 30° C	0.78 - 0.85 g/ml

Method of application

- 1 stir the primer well.
- 2 ensure that the surfaces to be bonded are clean, dry, free of oil and grease stains.
- 3 use of a padding cloth, sponge or brush is recommended for application of Polygrip APP 810.
- 4 for strong bonding, Polygrip PG 30 primer is recommended to be applied on the cleaned surface of TPR substrate.
- 5 Polygrip PG 40 primer is recommended to be applied on cleaned surface of EVA substrate.
- 6 allow it to dry for 3 - 5 minutes at ambient temperature.

PACKAGING UNIT

30 L

Isocyanate hardener for PU adhesives

It plays a very vital role for giving optimum bond strength to the adhesive. The incorporation of HR with PU will exhibit optimum mechanical, thermal and adhesion properties to footwear after 24 hours.

PACKAGING UNITS

100 g

250 g

500 g

1 kg

polygrip HR (CLEAR)
synthetic rubber and PU adhesives

Colourless modified isocyanate hardener

It is a transparent hardener for light coloured footwear which gives a colourless bond line to ensure no marks of bond line are left after drying. It plays a very vital role for giving optimum bond strength to the adhesive. The incorporation of HR Clear with PU will exhibit optimum mechanical, thermal and adhesion properties to footwear after 24 hours.

PACKAGING UNIT

1 kg

Typical technical data

Test parameters	Typical range
Density at 30° C	0.95 - 1.05 g/mL



POLYURETHANE ADHESIVES

Premium adhesive for sport shoes

Polygrip PU 6000 is used in combination with Polygrip HR Clear hardener in a specified ratio. The system is especially designed for the manufacturing of sport shoes where high green tack and rapid grabbing is required. It is also recommended for bonding sole to upper component in the footwear segment. This adhesive system provides a strong durable bond with synthetic substrates such as PVC, PU, EVA, phylon, TPR and leather.

Features

Rapid grabbing
High green tack
Colourless
No benzene
Water resistant and durable bond

Applications

Sport shoes
Safety and industrial shoes
Heavy duty sandals

Typical technical data

Test parameters	Typical range	
	PU 6000	HR (Clear)
Colour and appearance	Colourless, viscous liquid	Colourless liquid
Density at 30° C	0.84 - 0.88 g/ml	0.95 - 1.05 g/ml
Viscosity at 30° C	900 - 1,500 cPs	-
Mixing ratio	100	5

Method of application

- 1 clean the soles with Polygrip PG 60 to remove oil, grease, dust and dirt. Allow them to dry for 5 minutes at ambient conditions.
- 2 apply relevant primers to substrates, depending upon the type of substrates such as EVA, TPR and PU. Allow them to dry for at least 20 - 30 minutes at ambient temperature.
- 3 thoroughly roughen and clean the upper substrate by using suitable tools.
- 4 take 100 g of Polygrip PU 6000 in a clean container and add 5 parts of Polygrip HR Clear hardener by weight. Mix them thoroughly to get a homogeneous mixture. The mixture thus prepared is suitable to use up to 4 hours at ambient conditions.
- 5 uniformly apply adhesive on both the substrates to be bonded by using a brush or suitable tools.
- 6 allow adhesive to dry for 20 - 30 minutes at ambient temperature.
- 7 in case of porous (absorbing) substrate, apply a second coat of adhesive and allow drying for 20 - 30 minutes at ambient temperature.
- 8 allow substrates to heat at 70° C - 75° C for 3 - 5 minutes in an appropriate equipment.
- 9 bond both the components immediately in hot condition with a firm and uniform pressure with an appropriate device.
- 10 allow components to cool at room temperature under full pressure. To achieve faster production, cool the components with the help of a chilling unit under pressure.
- 11 after cooling, remove excess adhesive from the components.
- 12 allow components to cure for 24 hours at ambient conditions to achieve optimum strength.

**PACKAGING
UNIT**

30 L

Superior strength adhesive for bonding PU, TPR, EVA and rubber sole to upper

Polygrip PU 4000 is a solvent based, premium polyurethane adhesive, which is used in combination with Polygrip HR hardener in a specified ratio. It is especially designed for manufacturing of safety and industrial shoes for high strength bonding. It is also recommended for bonding sole to upper component in the footwear segment.

Features

Good bonding with PVC, PU, TPR and EVA sole
Good coverage
Mild smell
Colourless
Water resistant

Applications

Casual shoes
Safety shoes
Heavy duty footwear

Typical technical data

Test parameters	Typical range	
	PU 4000	HR
Colour and appearance	Colourless, medium viscous liquid	Dark brown liquid
Density at 30° C	0.82 - 0.87 g/ml	0.95 - 1.30 g/ml
Viscosity at 30° C	1,050 - 1,800 cPs	-
Mixing ratio	100	5

Method of application

- clean the sole with Polygrip PG 60 to remove oil, grease and dust. Allow it to dry for 5 minutes.
- apply relevant primer to substrates, depending upon the type of substrates such as EVA, TPR and PU. Allow the primer to dry for at least 20 - 30 minutes after application.
- take 100 g of Polygrip PU 4000 in a clean container and add 5 parts of Polygrip HR hardener by weight. The prepared mixture is suitable to use up to 4 hours.
- apply a thin layer on sole as well as upper and allow them to dry at room temperature for 20 - 30 minutes.
- heat both the substrates at 70° C - 75° C in an appropriate equipment.
- bond both the components immediately in hot condition with a firm and uniform pressure with an appropriate device.
- allow the finished footwear to cool down at room temperature.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNITS

5 L
30 L

High strength adhesive for bonding PU, TPR, EVA and rubber sole to upper

Polygrip PU 3000 is a solvent based, premium polyurethane adhesive, especially designed for manufacturing of safety and industrial shoes for high strength bonding. It is also recommended for bonding sole to upper component in the footwear segment. This adhesive system provides durable bond with synthetic substrates such as PVC, PU, EVA, phylon, TPR and leather.

Features

Good bonding with PVC, PU, TPR and EVA sole
Good coverage
Mild smell
Colourless
Excellent water resistance

Applications

Men's sandals
Casual shoes
Safety shoes
Heavy duty footwear

Typical technical data

Test parameters	Typical range	
	PU 3000	HR
Colour and appearance	Colourless, medium viscous liquid	Dark brown liquid
Density at 30° C	0.82 - 0.88 g/ml	0.95 - 1.30 g/ml
Viscosity at 30° C	1,050 - 1,800 cPs	-
Mixing ratio	100	5

Method of application

- clean the sole with Polygrip PG 60 to remove oil, grease and dust. Allow it to dry for 5 minutes.
- apply relevant primer to substrate, depending upon the type of substrate such as EVA, TPR and PU. Allow the primer to dry for at least 20 - 30 minutes after application.
- take 100 g of Polygrip PU 3000 in a clean container and add 5 parts of Polygrip HR hardener by weight. The prepared mixture is suitable to use up to 4 hours.
- apply a thin layer on sole as well as upper and allow them to dry at room temperature for 20 - 30 minutes.
- heat both the substrates at 70° C - 75° C in an appropriate equipment.
- bond both the components immediately in hot condition with a firm and uniform pressure with an appropriate device.
- allow the finished footwear to cool down at room temperature.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNITS

5 L
30 L

Ideal for bonding PU sole to synthetic upper

Polygrip PU 2000 is a solvent based polyurethane adhesive that creates a durable bond with synthetic substrates such as PVC, PU, EVA, phylon, TPR and leather.

Features

- Good coverage
- Mild smell
- Colourless

Application

Sole making

Typical technical data

Test parameters	Typical range	
	PU 2000	HR
Colour and appearance	Colourless, medium viscous liquid	Dark brown liquid
Density at 30° C	0.82 - 0.86 g/ml	0.95 - 1.30 g/ml
Viscosity at 30° C	800 - 1,200 cPs	-
Mixing ratio	100	5

Method of application

- 1 clean the sole with Polygrip PG 60 to remove oil, grease and dust. Allow it to dry for 5 minutes.
- 2 apply relevant primer to substrate, depending upon the type of substrates such as EVA, TPR and PU. Allow the primer to dry for at least 20 - 30 minutes after application.
- 3 take 100 g of Polygrip PU 2000 in a clean container and add 5 parts of Polygrip HR hardener by weight. The prepared mixture is suitable to use up to 4 hours.
- 4 apply a thin layer on the sole as well as the upper substrate and allow it to dry at room temperature for 20 - 30 minutes.
- 5 heat both the substrates at 70° C - 75° C in an appropriate equipment.
- 6 bond both the components immediately in hot condition with a firm and uniform pressure with an appropriate device.
- 7 allow the finished footwear to cool down at room temperature.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNITS

1 L
5 L
30 L

Ideal for economical adhesive for bonding PVC sole to synthetic upper and synthetic strip preparation

Polygrip PU 1000 is a solvent based PU adhesive that creates a durable bond with synthetic substrates such as PVC, PU, EVA, phylon, TPR and particularly, leather.

Features

- Economical
- Good coverage
- Mild smell
- Colourless
- Good bond strength

Application

Synthetic strip making for sandals

Typical technical data

Test parameters	Typical range	
	PU 1000	HR
Colour and appearance	Colourless, low viscous liquid	Dark brown liquid
Density at 30° C	0.82 - 0.86 g/ml	0.95 - 1.30 g/ml
Viscosity at 30° C	400 - 800 cPs	-
Mixing ratio	100	5

Method of application

- 1 clean sole with Polygrip PG 60 to remove oil, grease and dust. Allow it to dry for 5 minutes.
- 2 apply relevant primer to substrate, depending upon the type of substrates such as EVA, TPR and PU. Allow the primer to dry for at least 20 - 30 minutes after application.
- 3 take 100 g of Polygrip PU 1000 in a clean container and add 5 parts of Polygrip HR hardener by weight. The prepared mixture is suitable to use for up to 4 hours.
- 4 apply a thin layer on the sole as well as upper substrate and allow it to dry at room temperature for 20 - 30 minutes.
- 5 heat both the substrates at 70° C - 75° C in an appropriate equipment.
- 6 bond both the components immediately in hot condition with a firm and uniform pressure with an appropriate device.
- 7 allow the finished footwear to cool down at room temperature.

Optimum bond strength is achieved after 24 hours of curing at room temperature.

PACKAGING UNITS

1 L
5 L
30 L