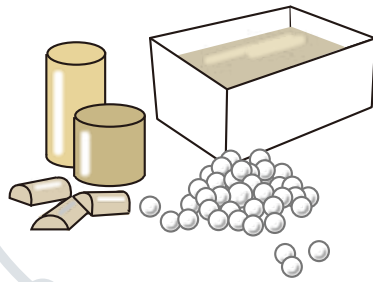


Hot Melt Adhesive Application

Hot Melt Adhesive Application

Hot melt application method consists of four elements.

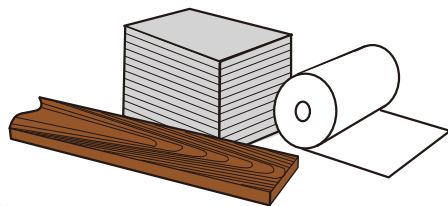
Adhesive
(Hot melt)



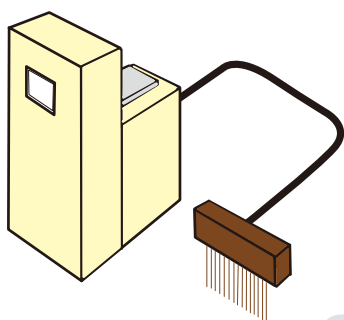
Suntool provides benefit to the customers through suitable/appropriate hot melt application system.



Base material.
Material to be coated



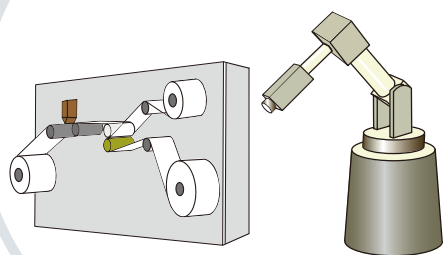
Coating system



To help achieve the customer's target, we provide the following services.

- Target is to help in choosing the suitable and best base material and hot melt.
- To find out the best application technique for the selected Hot melt.
- In addition, the proposal of how to continue to automate it.

Main machine
(Auto-machine, robot)



Message from President

Since establishment, SUNTOOL is oriented toward sanitary material market, and committed to the application system of hot melt adhesive for automobile, home appliance and building material industries.

Our development concept is to provide benefits to the customers through application system of hot melt adhesive.

In future, we will make constant efforts to target on high-quality products and stable product supply.

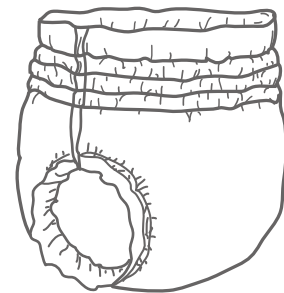
President Hidaka

Sanitary Application

Coating process by slot die coater



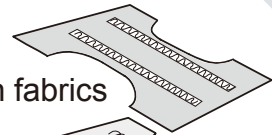
Pants-type paper diaper



Curtain spray coating



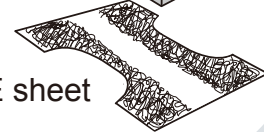
Non-woven fabrics



Absorbent pad

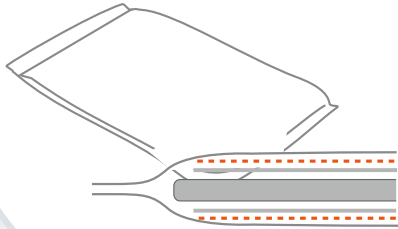


PE sheet

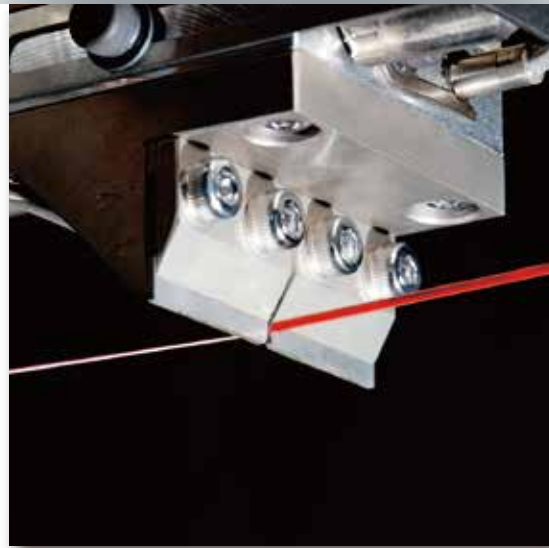


The sanitary materials including paper diapers are mainly assembled by hot melt adhesive. Hot melt adhesive improved its productive efficiency as well as production speed. Suntool have continuously been leading in the industry and has made a great number of achievements inside and outside of the country. Our accumulated knowledge of application and experience will meet your expectation.

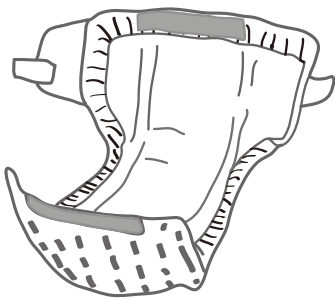
Sheets for pets/
Sanitary Pad/
mask/surgical gown/
poultice drugs



Slit coater (comb-shaped head)



Tape type paper
diaper

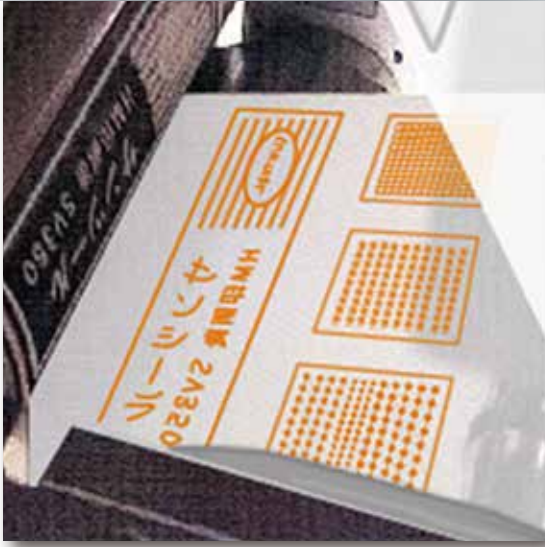


Spiral spray coating

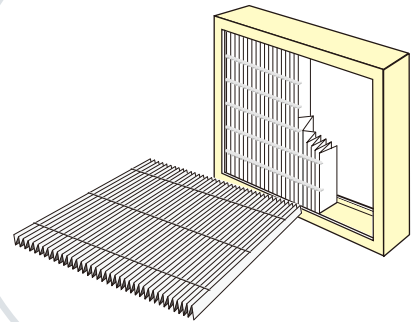


General Industry Application

Designed pattern coating



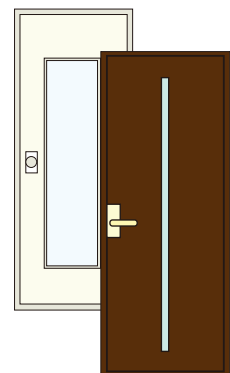
Filter



Foaming melt coating



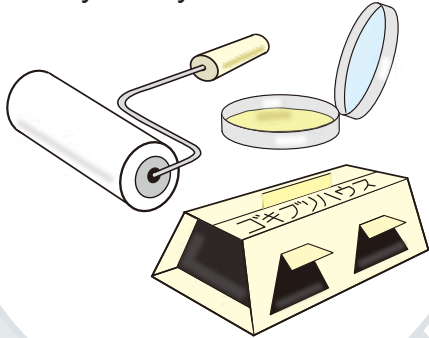
Interior door



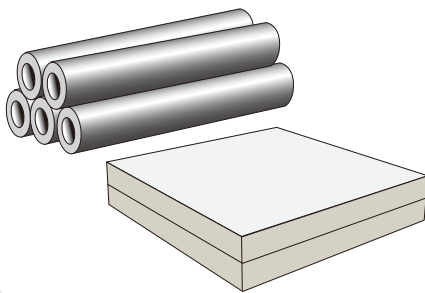
There are many ways of adhesion such as transferring, filling, molding, and sticking.

Suntool's technology has been used in many industries, and making a great contribution.

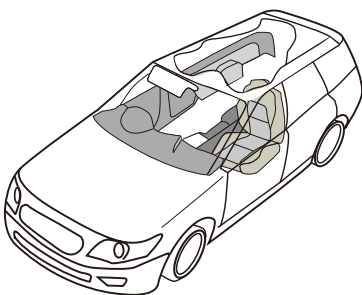
Day to day used article



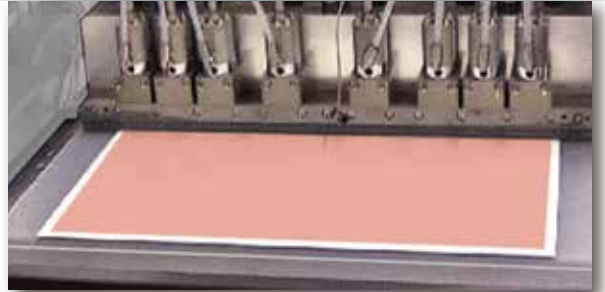
Lagging material



Auto parts



Wide coating



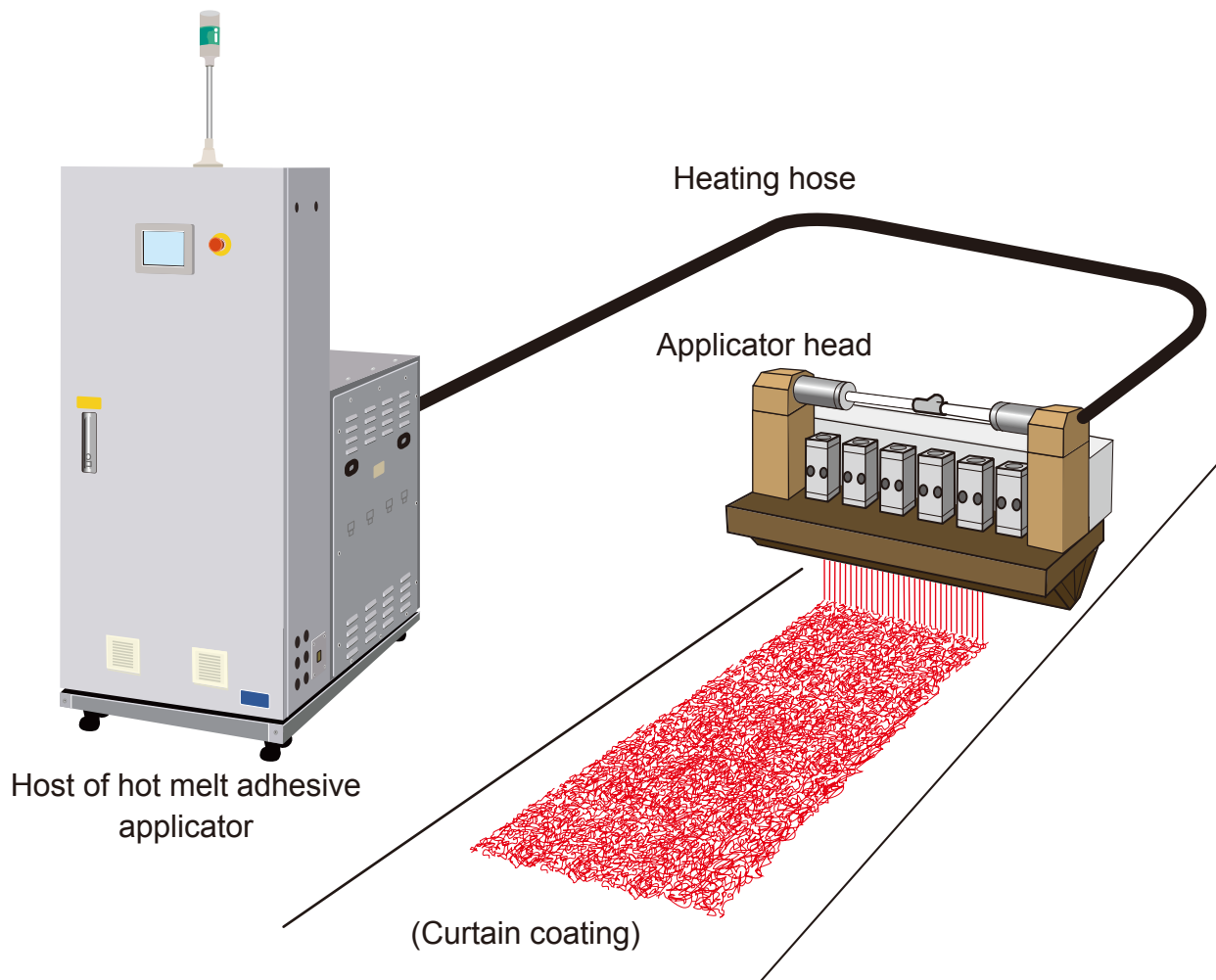
Roller coating



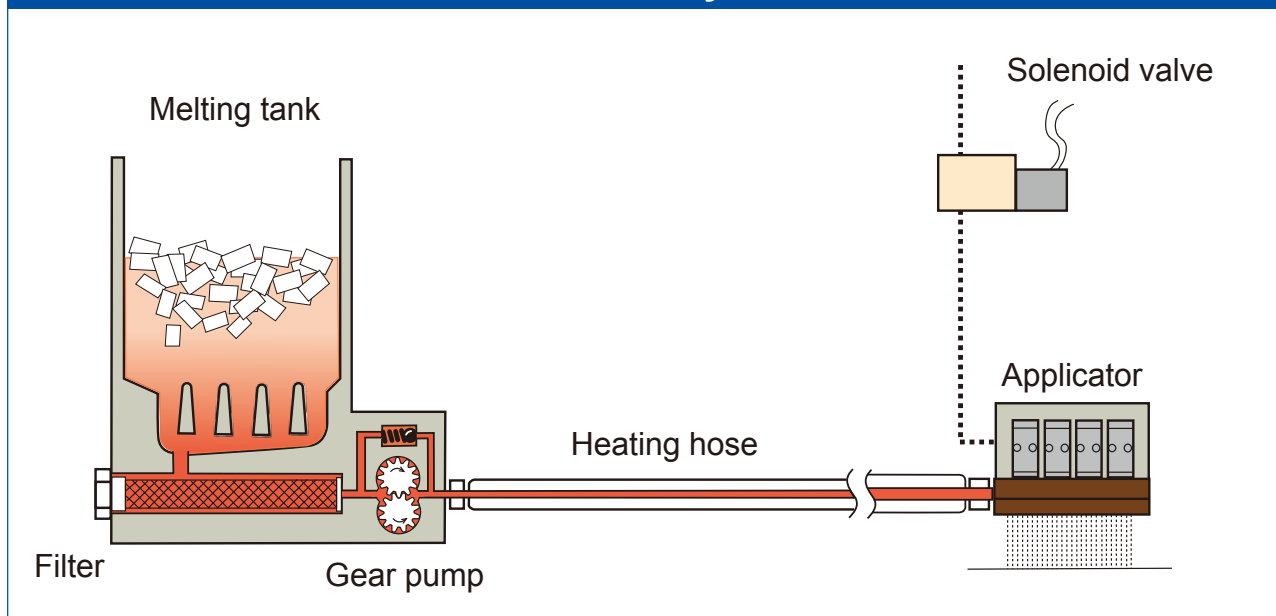
Dot/linear coating



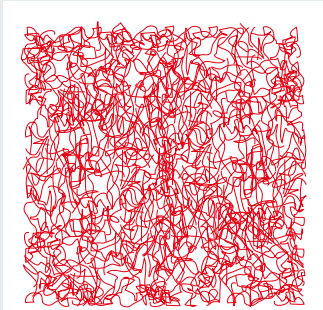
Coating technology of hot melt adhesive



Overview of system



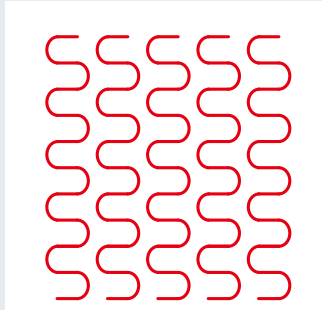
Fiber pattern



Non-contact coating

In fibrous form (curtain style coating), surface coating is flexible and suitable for adhesion, with small fiber diameter.

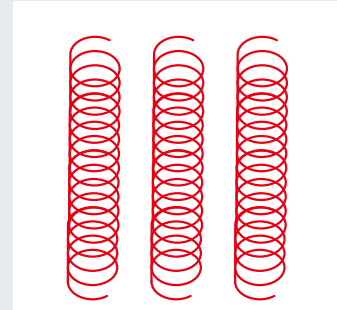
ZIP pattern



Non-contact coating

It is a non-overlap coating and has high unit-area strength as compared with fiber style coating.

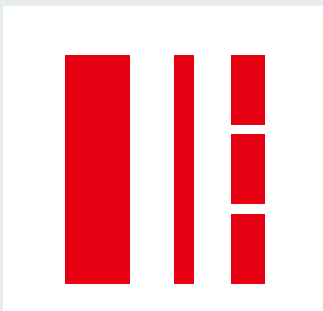
Spiral pattern



Non-contact coating

The hot melt adhesive is coated in spiral form. The glue pattern is enable to extend the application width compared to straight line pattern.

Slot die coating



Contact coating

Surface coating for contact base material. Optional coating methods including continuous/intermittent coating, thick-coating and thin-coating.

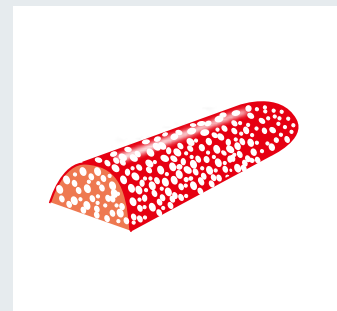
Designed pattern coating



Transfer print coating

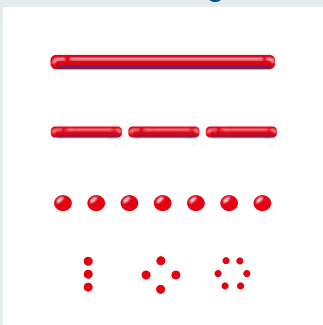
It is suitable for coating into characters, picture and any other pattern. It is a flexography designed coating method.

Foamed melt adhesive



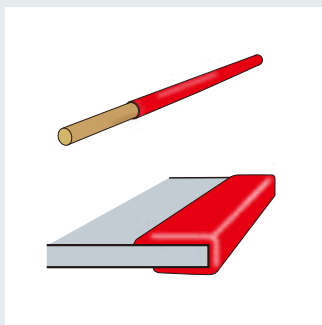
Injecting nitrogen gas into hot melt adhesive and make it foamed. It allows materials to be lighter and reduced.

Dot/linear coating



The hot melt adhesive sprayed from nozzle is used in dot coating, which is suitable for a wide range of coating such as filling, adhering, and molding.

Slit coater



It is suitable for the outer peripheral surface of the rubber thread or glass, and also plate's edge protection, waterproof sealing and so on.

**For more information
about coating methods,
please log on to**

www.suntool.co.jp

Product Introduction

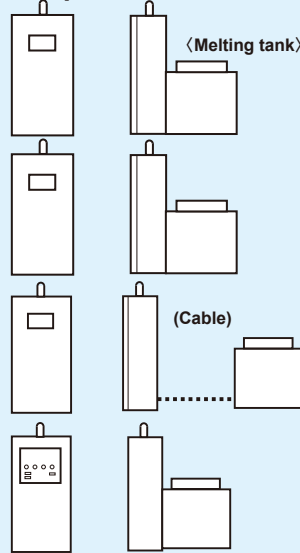
Hot melt adhesive melter

With the functions of melting the solid hot melt adhesive and delivering the melted hot glue via pump

Hot melt applicator with melt tank



<Control panel>



CV series (Compact type)

- Control: Sequencer
- Control panel integrated into melting tank

VH series

- Control: Sequencer
- Control panel integrated into melting tank

VA series

- Control: Sequencer
- Control panel separated from melting tank

SA series

- Control: individual metrical instrument
- Control panel integrated with melting tank

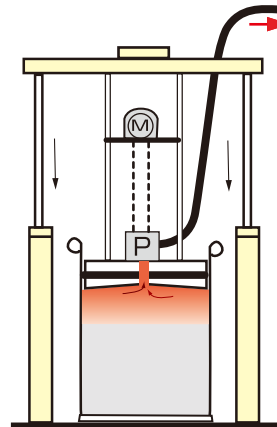
Tank volume : 10~200L / Gear pump volume : 1~20cc/rev

High capacity hot melt adhesive applicator

A melt adhesive applicator that pressurizes the hot melt adhesive in tank via pressure plate (hot plate) and draws and delivers the melted liquid.



(Barrel-shaped melt adhesive applicator 088 for cylinder use)



Foaming hot melt applicator

Inject some nitrogen gas into hot melt adhesive for foaming. It allows materials to be lighter and reduced.

- Foaming ratio: 1.0~6.0 (depending on using hot melt adhesive)
- Tank volume: 3~120L



MELTY

Tank volume/1 liter
It can conduct precise quantitative coating through gear pump's feeding. Specification PUR can be made.



Heating hose



Delivers the melted hot melt from pump to nozzle head via hose.

Standard

Inside diameter : $\phi 8$ 、13、25

Length : 1m~20m (basic unit is 1m)

Sensor : PT standard

Light hose

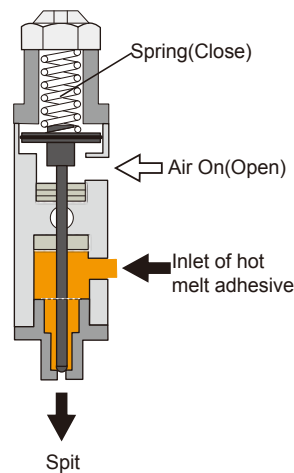
Energy saving type and enables to reduce 25%-30% of electricity.

RBT hose (for robot use)

Enhance its resistance and long life type.

Gun module

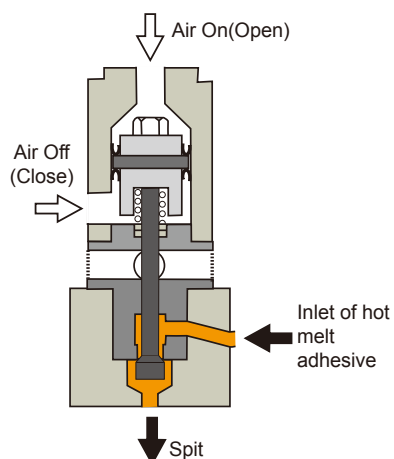
The switch pump can start and stop the delivery of hot melt adhesive from hose. It has many product lines of different intended uses including continuous coating, intermittent coating, switching speed and durability.



S100

Compact and standard model

It controls spraying volume through the ball of piston rod and its gasket. Opens when Air ON and OFF with spring.



SB2

A high speed response model with switch pump triggered by air.

Front end of piston is Komagata, which will rise it is OFF.

It has a high durability and has a performance of switching ON and OFF over 100 million times

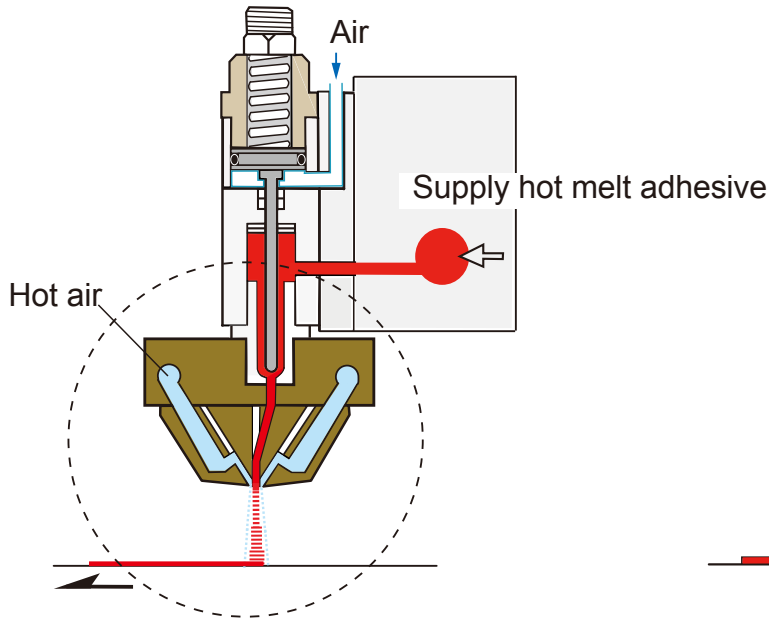
※In addition, we also have many products that can stabilize circulation mode of temperature and flow of hot melt adhesive, and carry circulation mechanism inside the module.

Product Introduction

Applicator

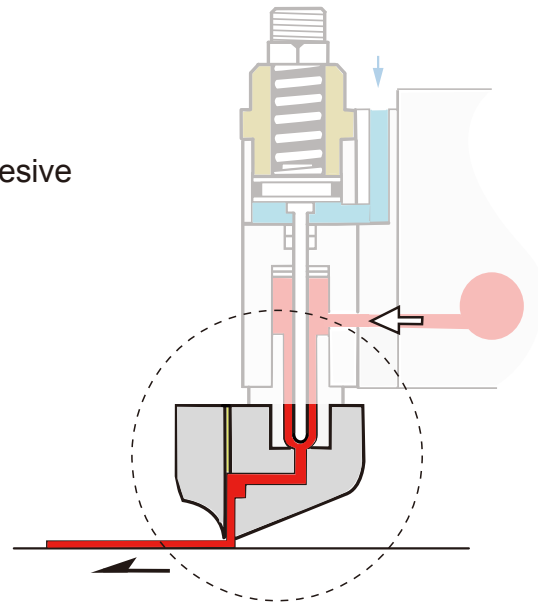
Curtain coating

Spray gun module



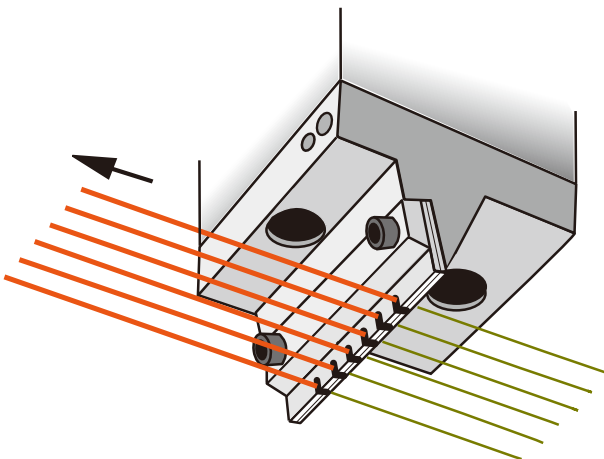
Evenly coat the fibrous formed hot melt adhesive onto base material in non-contact way. The hot melt adhesive sprayed from comb-shaped slit is drawn and coated onto the surface of base material by the hot air from its two sides, with coating width up to 5mm~2000mm. (Patented)

Slot coating



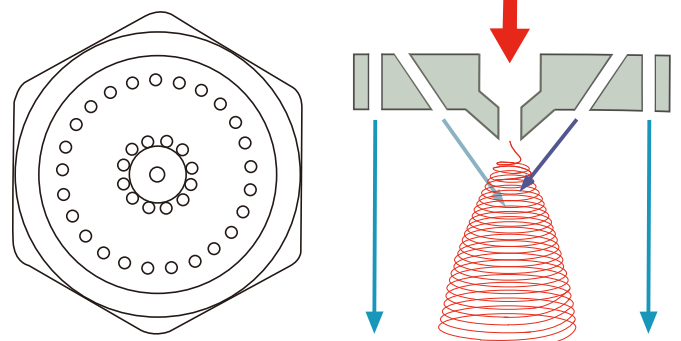
The nozzle is used for surface coating of base material in contact way. Coating methods include coating on transfer roller and coating by using tension between rollers.

Slit coater (Comb-shaped gun)



The nozzle coats hot melt adhesive around rubber thread, supports line velocity of 600m/minute, and can make rubber thread knots directly get through. (Patented)

Spiral coating

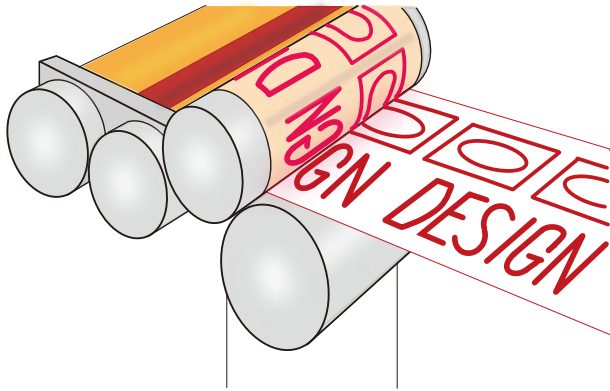


SUNTOOL appending secondary air nozzle (Domestic; US specialty)

A nozzle that releases hot melt adhesive in rotating hot airs to conduct spiral coating.

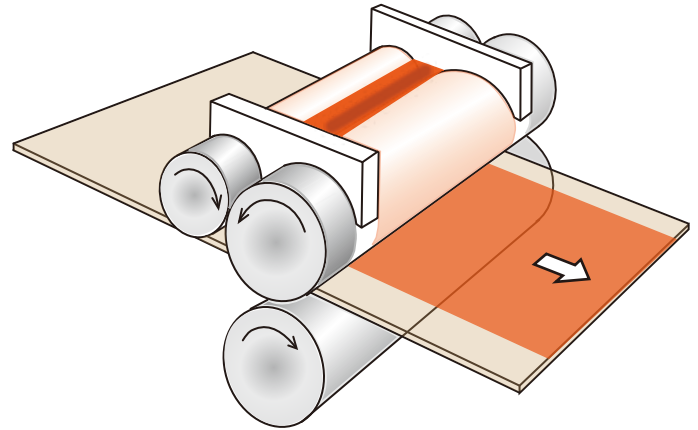
- Moulding by guiding air.
- Maintenance of nozzle is significantly reduced under clean air protection.
- Being able to apply a high-stickiness hot melt adhesive which can't be done before with usual nozzles.
- The paralleling multi-nozzle head can wider the application width.

Pattern roller coating(Designed pattern coating)



Regardless of characters and patterns, precise and correct transfer print can be completed by using this technology. Our self-researched special silica gel plate can be changed in whole set for making any patterns. It's available to use various hot melt adhesives, from strong stickiness to weak stickiness.

Transfer roller coating



The melted adhesive is accumulated between two rollers, and can finish transfer print by adjusting space between the rollers.

- Be able to coat evenly and fully from corner to corner.
- Since the coating method presses hot melt adhesive into base material, it increases adherent density of base material.
- Regardless of the shape, the coating can only target on prominent part as needed.

Other



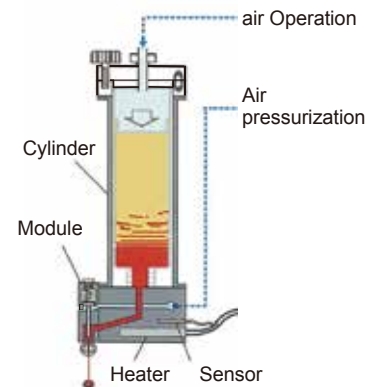
Dispenser

Simple and multi-function desktop melt adhesive applicator

- Able to apply various coatings by changing nozzle heads.
- Simple structure, maintenance-free
- Abundant options to improve functions.
- Also prepared applicator for reactive hot melt.

- Cylinder volume: 300/1000cc
- Power supply: 100/200VAC
- Air pressurization method

<DP300 Structure figure>



Portable hand spray gun

Simple hand spray gun

- Small and light, with easy operation.
- Power supply: 100VAC
- Dot/spray/spiral coating available
- Built-in electronic type temperature controller, with digital display.

- Cylinder volume:300cc
- Power supply:100VAC
- Air pressurization method

Coating test is available

To ensure successful application system, please use our lab for testing.
We will help you choose hot melt adhesive and verify the mechanical performance of the chosen applicator.



Coating equipments

- Winding machine
Line [1]: 250 mm max. coating width
Line [2]: 500 mm max. coating width
Line [3]: 800 mm max. coating width
Max. speed: 600 m/min
- 3-axis robot
Operating range:
X600mm×Y970mm×Z100mm
- Conveyor
Work carrier width: Maximum 1m

Sales performance

AsahiKasei Corporation

Asahi glass Fiber Co., Ltd.

Eidaikako Co., Ltd.

Daio Paper Corporation

Kao Corporation

Kureha Trading Co.,Ltd.

Cambridge Filter Japan, Ltd

Kotobukiya Fronte Co., Ltd.

Sharp Corporation

3M Health Care Ltd.

SEIREN CO., LTD.

SEKISUI CHEMICAL CO., LTD.

Daiken Corporation

Dai Nippon Printing Co., Ltd.

TAIYO KIKAI LTD.

Zuiko Corporation

Toray Industries, Inc.

Toppan Inc.

Toppan Forms CO., LTD.

Toyota Boshoku Corporation

Nichias Corporation

Nitta Corporation

Nitto Denko Corporation

Nitoms, Inc.

Nippon Muki CO., LTD.

Hakujuji Co., Ltd.

Panasonic Corporation

Hayashikane Sangyo Co., Ltd.

P&G Company of Japan Limited

Fuji Paper Bag Machine Works Co., Ltd.

Miyakoshi Printing Machinery, Co., Ltd.

Unicharm Corporation

Rinrei Tape CO., LTD.

Livedo Corporation

And so on (omitted)

Overview of corporation

Name	Suntool Corporation
Business locations	<ul style="list-style-type: none">■ Head Office 34-15 Dainichihigashimachi, Moriguchi City, Osaka Pref.570-0016 Tel: +81-(0)6-6780-4160 (Operator) Fax: +81-(0)6-6780-4161 Email: sales@suntool.co.jp■ Moriguchi Factory 2-6-21 Dainichicho, Moriguchi City, Osaka Pref. 570-0003 Tel: +81-(0)6-6904-8881 (Operator) Fax: +81-(0)6-6904-8932■ Yokohama Office 4F Shinyamashita Warehouse, Kokusai Aeromarine Co., Ltd. 1-15-11 Shinyamashita, Naka-ku, Yokohama City, Kanagawa Pref. 231-0801 Tel: +81-(0)45-629-3272 Fax: +81-(0)45-629-3274■ Shikoku Office 501-1 HKK Feel B 505-4 Nishibun, Iino-cho, Marugame City, Kagawa Pref. 763-0086 Tel: +81-(0)877-35-7511 Fax: +81-(0)877-35-7512■ Affiliate/SUNTOOL Spraying Equipment (Shanghai) Co., Ltd. 1st Floor -A, 11th Building, No.600, Fengrao Rd., Malu Town, Jiading, Shanghai, China. 201801 Tel: +86 (21) 6405-1018 Fax: +86 (21) 6405-1019■ Affiliate/Suntool India Private Limited 3036, Ground Floor 8th Main, HAL 2nd Stage, Indiranagar Bangalore-560038 Karnataka, INDIA Tel: +91 (80) 4957-7714
Established	May 13, 1977
Capital	10 million JPY
Officers	Chairman ... Shoji Hidaka President ... Seiichi Hidaka
Employees	60 (As of April 1, 2016)
Annual sales	1,700 million JPY
Our bank	Bank of Tokyo - Mitsubishi UFJ (Umeda Chuo Branch) Bank of Kyoto(Dainichi Branch)
Line of business	Manufacture and sale of automatic coating machines and related equipment for hot melt and other liquids

History

- 1977 ... Established Suntool Corp.
- 1982 ... Began manufacture of parts for hot melt adhesive machines.
- 1983 ... Developed high-capacity hot melt applicator for diapers.
- 1985 ... Started sales of the ZH30 and ZH60 hot melt applicators.
- 1988 ... Started sales of spray guns.
- 1989 ... Established Suntool Technology Research Corp.
- 1992 ... Completed spiral spray coating machine.
- 1994 ... Completed curtain spray coating machine.
- 1994 ... Built Moriguchi Factory.
- 1995 ... Completed back-suction gun.
- 1998 ... Acquired ISO9001:1994.
- 1999 ... Developed high-performance spiral nozzle.
- 2003 ... Acquired ISO9001:2000.
- 2003 ... Developed the CF120 foaming melt adhesive applicator.
- 2005 ... Integrated operations of Suntool Technology Research Corp. into Suntool Corp.
- 2006 ... Developed transfer print coating machine.
- 2008 ... Completed the SV350 hot melt coating machine.
- 2009 ... Upgraded quality management certification to ISO9001:2008.
- 2009 ... Developed sealing machine for solar panels.
- 2011 ... Established Suntool Trading (Shanghai) Co., Ltd.
- 2012 ... Developed print coating machine for sanitary materials.
Developed the CV45 tank for sanitary materials.
- 2013 ... Developed compact curtain spray nozzle.
- 2014 ... Relocated Head Office from Higashiyodogawa to Moriguchi.
- 2014 ... Developed and patented new print coating technology (#5828469).
- 2014 ... Started sales of standardized units for foaming systems.
- 2014 ... Established Suntool India Private Limited.
- 2015 ... Developed hot melt flow meter.
- 2015 ... Developed coating head for indicators. Patent pending.
- 2016 ... Relocated and changed the Shanghai Office from a trading company to a manufacturer (SUNTOOL Spraying Equipment (Shanghai) Co., Ltd.).
- 2018 ... Established Shikoku Office

Suntool Corporation

■ Head Office

34-15 Dainichihigashimachi, Moriguchi City, Osaka Pref. 570-0016
Tel: +81-(0)6-6780-4160 (Operator) Fax: +81-(0)6-6780-4161
Email: sales@suntool.co.jp

■ Moriguchi Factory

2-6-21 Dainichicho, Moriguchi City, Osaka Pref. 570-0003
Tel: +81-(0)6-6904-8881 (Operator) Fax: +81-(0)6-6904-8932

■ Yokohama Office

4F Shinyamashita Warehouse, Kokusai Aeromarine Co., Ltd., 1-15-11
Shinyamashita, Naka-ku, Yokohama City, Kanagawa Pref. 231-0801
Tel: +81-(0)45-629-3272 Fax: +81-(0)45-629-3274

■ Shikoku Office

501-1 HKK Feel B 505-4
Nishibun, Iino-cho, Marugame City, Kagawa Pref. 763-0086
Tel: +81-(0)877-35-7511 Fax: +81-(0)877-35-7512

■ Affiliates

SUNTOOL Spraying Equipment (Shanghai) Co., Ltd.
1st Floor -A, 11th Building, No.600, Fengrao Rd., Malu Town, Jiading,
Shanghai, China. 201801
Tel: 0086-21-6405-1018 Fax: 0086-21-6405-1019

SUNTOOL India Private Limited

3036, Ground Floor 8th Main, HAL 2nd Stage, Indiranagar Bangalore-560038 Karnataka, INDIA
Tel: 0091-80-4957-7714

Distributers

■ Tsujikawa (Thailand) Co., Ltd.

Pinthong Industrial Estate 1
789/19 Moo1, Nongkham,
Sriracha, Chonburi 20230, Thailand
Tel: +66-(0)38-348398
Fax: +66-(0)38-348399

■ PT. Tsujikawa Indonesia

Kawasan Industri Delta Silicon 6
Jl. Kenari Raya Blok G6-01 Kav. 9A
Desa Jayamukti
Kec. Cikarang Pusat
Bekasi 17530, Indonesia
Tel: +62-21-29577708
Fax: +62-21-29577709