

Get a Grip. How to select the right adhesive

Avery Dennison
Labels and Packaging Materials

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Get a Grip. How to select the right adhesive

Presenters



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Get a Grip. How to select the right adhesive

Avery Dennison — Adhesive innovators since 1935

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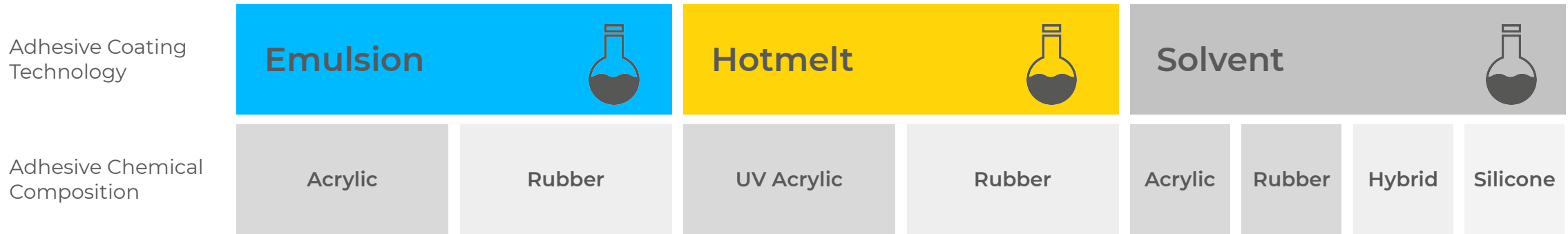
Global Coverage

7 R+D Centers and 400+ scientists:

- Netherlands
- Switzerland
- United States of America (2)
- Brazil
- China
- India

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Unique Technological Capabilities



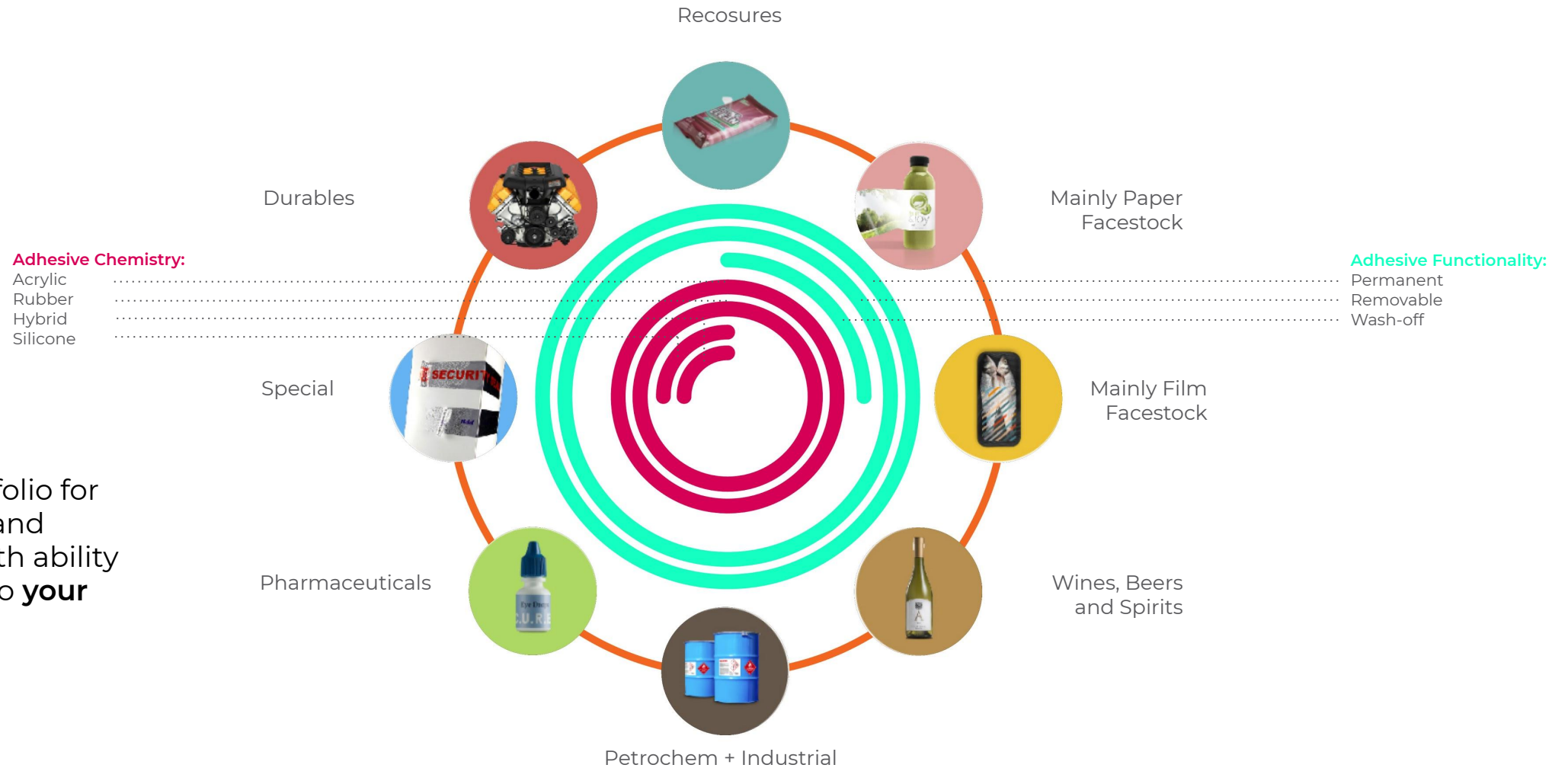
The three coating technologies enable us to engineer adhesives with a wide range of functionality within each adhesive chemical composition variation.

160+ adhesives in Europe

Permanent, removable and many more enhanced functionalities

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Adhesive Engineering



Adhesive portfolio for every market and application with ability to customize to **your** needs.

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Adhesive Comparison (Directional)

Excellent tack and adhesion:

Adhesion to a wide range of surfaces:

Conversion (eg. die cutting, bleed):

Excellent low temperature performance:

Chemical resistance:

Food and other approvals:

Cost:

Reclosure:

Few adhesive examples:

	Emulsion Acrylic	Hotmelt UV-Acrylic	Hotmelt Rubber	Solvent Acrylic	Solvent Rubber
Excellent tack and adhesion:	*	**	***	**	***
Adhesion to a wide range of surfaces:	*	**	***	**	***
Conversion (eg. die cutting, bleed):	***	**	*	**	*
Excellent low temperature performance:	*	**	***	*	**
Chemical resistance:	**	***	**	***	**
Food and other approvals:	***	**	**	*	n.a.
Cost:	***	*	**	*	*
Reclosure:	*	**	*	***	*
Few adhesive examples:	S692N S7000 S2000NG	R3200N S3100	S2045N C2075N	UVR145 MR980R S517N	R100 S451 S277

*** Best performance

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Trends and Adhesive Innovations



Sustainability

CleanFlake™ SR3011

Enabling recycling of PET containers

ClearCut™ S7000

Enabling use of thinner constructions



Functional Packaging

R100

Clean removability

MR980R

High solvent resistant reclosure



Legislation

S799P Seal Range

Complying with FMD 2011/62/EU

S692N

Complying with Regulation (EU) No. 10/2011



Adhesive Selection Criteria



Choosing the Right Adhesive



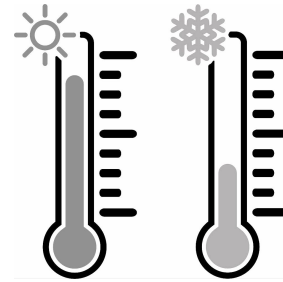
Application

- Paper vs Film
- Specifics of application segment
eg, wash-off requirements



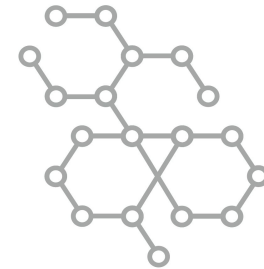
Surface to be labelled

- Polar
- Apolar
- Rough
- Extremely difficult



Temperature and other conditions

- Minimum application
- Service temperature
- UV light exposure, etc.
- Compliance



Adhesive requirements

- Peel and tack
- Sound and smoothness
(reclosure)

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Surface to be Labelled

Easy

Challenging

Smooth

Slightly rough

Rough

Heavy rough or contaminated

Extremely difficult

- **Polar**
GLOSS (glass, PET, metal, stainless steel)
- **Apolar**
GLOSS plastics (PP, PE)

- **Polar**
MATT (glass, metal, stainless steel, PET)
- **Apolar**
MATT plastics (PVC, crates, HDPE, PP)

- Coated cards, non-silicone varnished
- Uncoated cards, textile, matt varnished, cardboard
- Planed wood, fiberboard, chemical drum (PE)

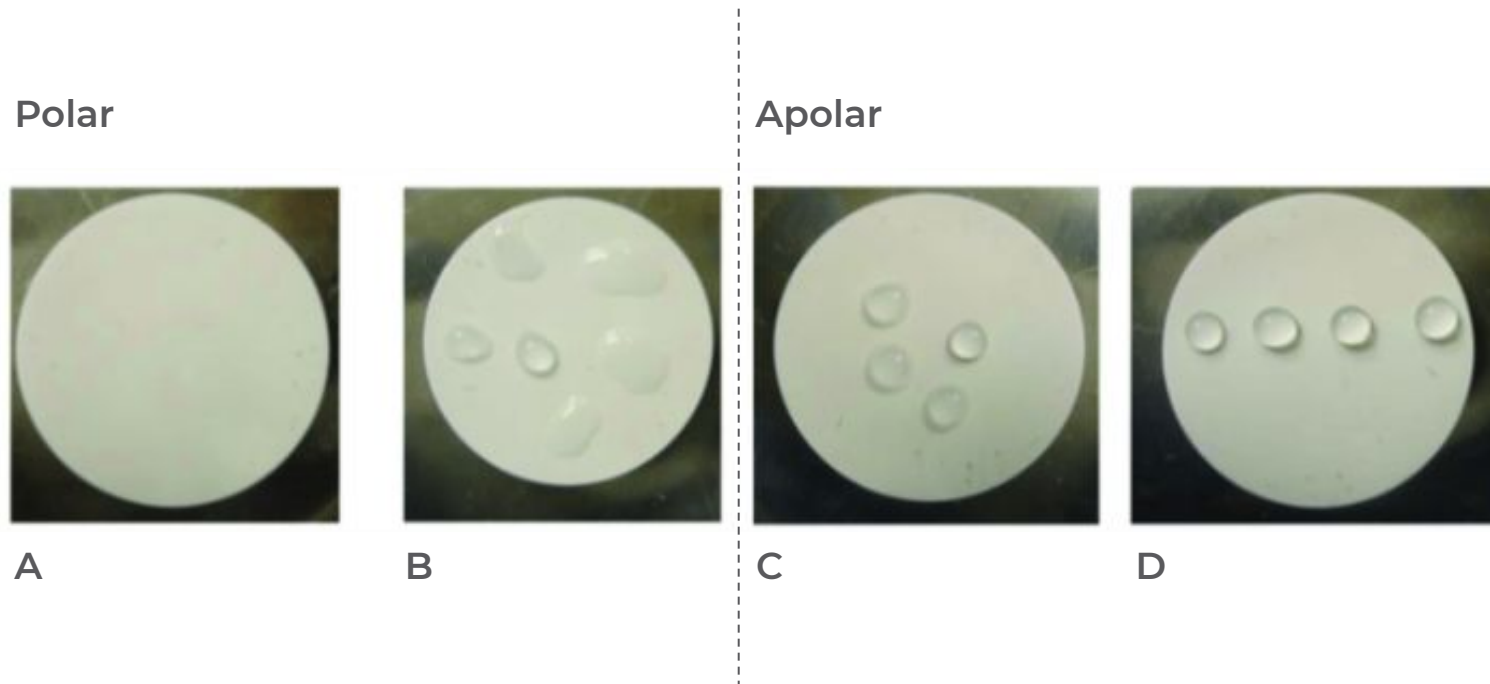
- Tyres, wood, carpets, concrete, stone, pallets
- Dusty and oil contaminated surfaces

- Silicone rubber, hot metal, airbags



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Surface to be Labelled — Polarity



Understanding the surface to be labeled is critical in selection of an adhesive

Images (A & B) \Rightarrow polar surface or high Surface Energy (HSE)

Images (C & D) \Rightarrow apolar surface or Low Surface Energy (LSE)

Source: Surface-Engineered Inorganic Nanoporous Membranes for Vapor and Pervaporative Separations of Water–Ethanol Mixtures — Scientific; Scientific Figure on ResearchGate

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Temperature

Minimum application

temperature: lowest temperature at which the label is applied to the substrate.



Service temperature

temperature range that the label will be exposed to over its expected lifetime.

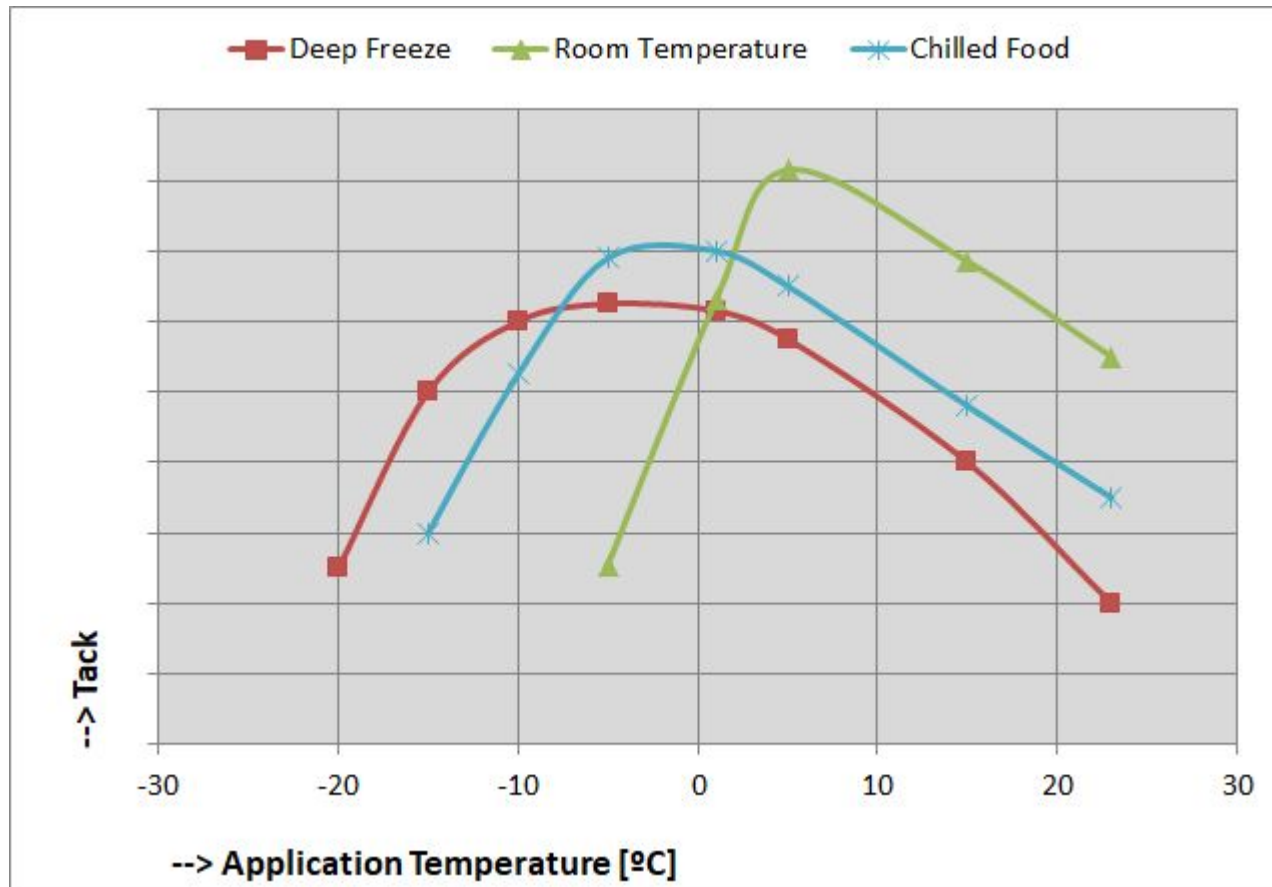


Labelexpo 2019: Cold Chain C2050P

- application temperature down to -50°C
- service temperature down to -196°C

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Application Temperature



Every adhesive has its own optimum application temperature window.

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Heritage

- 85 years of adhesive expertise
- We design and produce our own adhesives globally
- Full spectrum of adhesive technologies:
 - Emulsion
 - Hotmelt
 - Solvent
- Technical Sales Support (TSS) in each region to advise on adhesive to use.



Check out our [Adhesive webpage](#) for latest news

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**Connect with us to
'get a grip' on your adhesive
challenge.**

Thank You

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