Custom Label Constructions

Labels + Packaging
Technical Guide
Europe
2021



AVERY DENNISON

Custom Label Constructions

Never be lost without a trace.

Inventory management, logistics, and high-security operations all depend on labels to help identify, track and trace items. But label constructions aren't one-size-fits all, and some applications require the invention of something new.

Our Custom Solutions team can help you develop label constructions designed specifically for a particular application. We offer:

- Custom facestock, adhesive and liner combinations
- Access to thousands of laminates, including specialty laminates like transfer tape, piggybacks, and gum twins
- Complete solutions for RFID applications
- All adhesive technologies, including emulsion, hotmelt and solvent
- Custom gum patterns



AVERY DENNISON

LPM/EU/2021/September

The labeling industry's leading innovators, at your service

Let our experts look at your particular challenge from every angle—substrate, performance requirements, printing technique, tracking system, and more. Our materials engineers bring decades of experience in the design, prototyping, testing and printing of label materials for virtually every industry and application, including a wide variety of track-and-trace applications.

Whatever your challenge, we've probably seen it. And if we haven't, we can't wait to roll up our sleeves and help solve it.

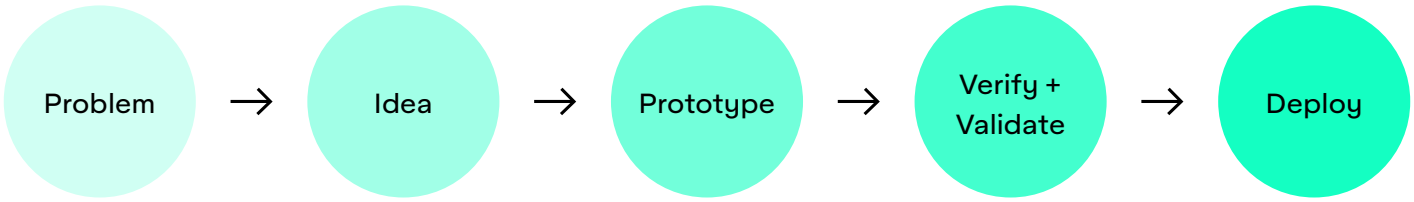
A clear path to the right answer

We take a methodical, step-by-step approach that begins with carefully defining your challenge and ends with a deployable solution.

As a start, ask yourself the following questions:

- What are you labeling?
- What initial material are you considering?
- What are the performance requirements?
- How will the label be printed and applied?
- Post-application, what kind of environment (temperature, moisture, etc.) will the label be exposed to?

Based on that input, our technical support staff can work with you to develop the best combination of labeling materials. They're always available to help validate your selections, ensuring the correct construction for the greatest level of efficiency and success.



AVERY DENNISON

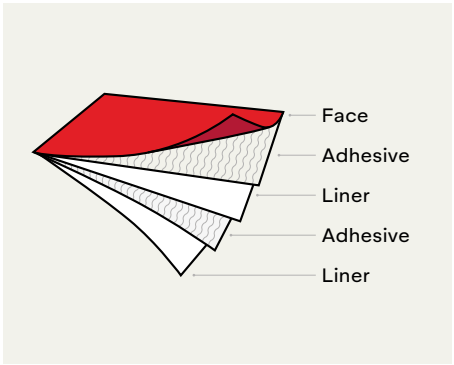
From kind of unique to totally unique

Depending on your application, the solution we devise might employ materials from our existing product lines. Or it might require something altogether new. Our Mix and Match, Engineered Solutions and Engineered Solutions + options make it easy to arrive at the label construction you need.

Mix and Match
Our Mix and Match Portfolio lets you choose from a set range of label materials and constructions we offer “off the shelf” and combine them as your needs demand. Select foils, metalized films, papers and more, in combination with some of our best-performing adhesives and liners. Mix and Match gives you the benefit of a customized label solution with low minimum-order quantities and rapid pricing.

Engineered Solutions
Choose materials from our Mix and Match Portfolio and add one that we don’t currently offer. We’ll help source or develop the new component to create a label construction that meets your unique needs.

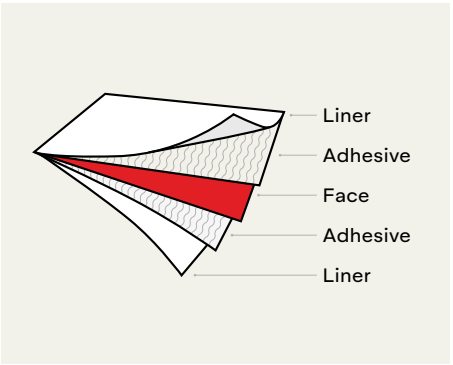
Engineered Solutions +
When you need something entirely new. These can involve materials from our product lines and/or additional materials, as well as added functionality for track-and-trace applications not found in off-the-shelf constructions. Options for expanded functionality include:



Piggyback labels (PB)
Multi-layer, “label-on-label” construction with two adhesive layers and two release liners. Piggyback labels are the right solution when there is a need to apply a label and then have all or part of that label re-applied elsewhere.

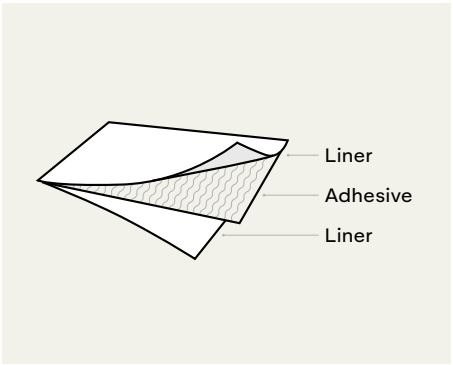
Application areas:
Logistics containers (cardboard, plastic)/return labels in e-commerce/ shipping and tracking/promotional coupons/warehouse management

Piggyback labels **cannot** be combined with RFID.



Gum twin constructions (GT)
Typical gum twin constructions have a carrier in the middle, with two adhesive layers and release liners at front and back. Like transfer tapes, gum twins allow you to create your own labels, but with even more opportunities for customization (combining different adhesives in one construction, or creating a no-label look).

Application areas:
Permanent mounting/sealable products/RFID/removable applications (e.g. mailing)/security



Transfer tapes (TT)
Transfer tape constructions use two release liners with an adhesive in between. They’re typically used to make your own laminates or custom self adhesive labels, including RFID labels.

Application areas:
Special facestock material combinations (e.g. security)/RFID/product inserts/ sealable products/food and retail promotions

AVERY DENNISON

Using transfer tapes and gum twins with RFID inlays

More companies are discovering the benefits of tagging products with radio frequency identification (RFID) inlays. Industries like apparel, beauty, pharmaceuticals, food and aviation are seeing how creating a trackable, traceable, “digital twin” for every item can provide unprecedented visibility into the supply chain, improve inventory management, reduce waste and enhance the consumer brand experience.



Finding the best inlay for your needs
Choosing the right inlay can be challenging. For example, some companies find that standard “wet” RFID inlays offer few options for adhesives. These limitations can make it difficult to ensure reliable adhesion to challenging surfaces, or guarantee label performance on smaller items and products exposed to heat or cold. In addition, standard wet RFID inlays are usually designed to be permanent, making it hard to create tags that can be easily removed. For all these reasons, wet inlays aren’t suitable for many products.

Fortunately, the solution is as easy as using dry inlays instead of wet ones.

What’s the difference? It’s simple: unlike wet inlays, dry inlays do not come with pressure-sensitive adhesive. However, they can be easily changed into wet ones by adding adhesive – and this is where special label constructions like transfer tapes and gum twins enter the picture.

Challenging surfaces, extreme environments and removability
Gum twins and transfer tapes offer a solution for attaching dry RFID inlays in applications where wet inlays won’t work. Here are a few:

Challenging surfaces: Wet inlays work best on cardboard and paper. For curved or rough surfaces, or those likely to be contaminated by dust or moisture, dry inlays are a better option, since they allow users to apply an adhesive that performs well on such surfaces.

Extreme environments: For RFID tags that will be applied or deployed in hot, cold or wet conditions, dry inlays can be made with adhesives engineered to withstand such environments, ensuring reliable adhesion and ongoing RFID functionality. Using gum twins for these tags provides additional reinforcement thanks to the presence of face material covered with adhesive on both sides.

Creating a removable tag: Most standard adhesives used with RFID tags are permanent. But some products, like clothing, electronics and multiple-use logistics packaging, require tags that users can remove. Dry inlays, paired with gum twins coated with removable adhesive on one side, are perfect for this application.

AVERY DENNISON

In just two steps, you can choose an RFID-enabled label construction:

1 Choose your construction based on your adhesive needs

General purpose

Suitable for a wide range of applications across multiple industries, including logistics, food and beverage and home and personal care.

Special applications

Ideal for applications with challenging performance requirements, like rough surfaces and products that are exposed to extreme temperatures.

Removables

Made for products that require a removable tag, including clothing, electronics and some logistics packaging.

Pharmaceuticals

Can be used for pharmaceutical applications with different needs, including high UV resistance, low migration and sterilization requirements.

Find a list of gum twin and transfer tape constructions suitable for different adhesive requirements on pages 9 and 10.

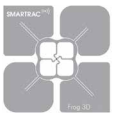
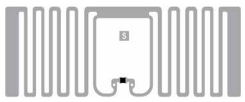
Read more about how to get started with RFID at rfid.averydennison.com



AVERY DENNISON

2 Choose your inlay based on end application

Different inlays are best for different purposes and industries. We have many options available and have listed our top two recommendations for various sectors below.

Commonly used in*	Inlay model **	Dimensions	Inlay family
Logistics & Supply Chain		41.1 x 16mm	AD-321
		40 x 40mm	Frog 3D
Healthcare		22 x 12.5mm	AD-190
		22 x 12mm	Minidose
Automotive		90 x 19mm	AD-663
		94 x 24mm	Dogbone
Apparel & fashion		70 x 15mm	AD-238
		42 x 16mm	Miniweb
Food		95 x 14.5 mm	AD-251
		93 x 11 mm	Shortdipole
Industrial applications		95 x 8.2mm	AD-229
		70 x 14mm	Belt

*Multiple end applications per products are possible, check our full RFID portfolio here
**Not to scale

AVERY DENNISON

Piggyback labels (PB)*

Key application	Code	Product Name	Description	MOQ(m^2)	Lead time**
General purpose	AA254	PB Vellum Extra FSC 2XS2000N-BG40WH/BG40BR	General purpose adhesive	970	(EXT) 1
	AF411	PB Vellum Extra FSC 2XS2045N-2XBG40BR	General purpose adhesive	2,000	1
	AB746	PB Vellum Extra FSC 2XS2000N-PET30/BG40BR	General purpose adhesive	1,000	7
	AA286	PB MC Primecoat FSC 2XS2000N-BG40WH/BG40BR	General purpose adhesive	2,000	(EXT) 1
	BF299	PB MC Primecoat FSC 2XS2000N-40W FSC/PET30	General purpose adhesive	1,000	7
	AM399	PB MC Primecoat FSC 2XS2045N-BG40WH/BG40BR	General purpose adhesive	500	7
	AA687	PB Thermal Top S8 FSC 2XS2000N-2XBG40BR	General purpose adhesive	1,000	1
	AE439	PB Thermal Top S8 FSC 2XS2000N-BG40WH/40BR	General purpose adhesive	1,000	7
	AG446	PB Thermal Top S8 FSC 2XS2045N-2XBG40BR	General purpose adhesive	1,000	7
	AB941	PB Thermal Top S8 FSC 2XS2045N-BG40BR/BG40WH	General purpose adhesive	1,000	7
	AG603	PB Thermal Top S8 FSC 2XS2045N-BG40WH/BG40BR	General purpose adhesive	1,000	1
	AH867	PB PE85 Top White 2XS692N-2XBG40BR	General purpose adhesive	1,000	7
	AD168	PB PP Top White 2XS692N-2XBG40WH	General purpose adhesive	1,000	7
	AT804	PB PP30 Top Clear 2XS692N-2XPET30	General purpose adhesive	1,000	7
	AE036	PB PP NG Top White 2XS2045N-BG40WH/BG40BR	General purpose adhesive	1,000	7
Special purpose	AA445	PB Vellum Extra FSC 3XS2045N-40BR/40WH/40BR	Triple deck	1,000	7
	AL465	PB Vellum Extra FSC 2XC2075N-2XBG40BR	Deep freeze adhesive	1,000	7
	AC074	PB Thermal Top S8 FSC 2XC2075N-2XBG40BR	Deep freeze adhesive	1,000	7
	AE422	PB Thermal Top S8 FS 2XC2075N-BG40WH/BG40BR	Deep freeze adhesive	1,000	7
	BT971	PB Transfer Superior S2000NP/S2060NPPET23/BG40BR FSC	Autoclave sterilisation	1,000	60
	BQ897	PB Demand Jetgloss FSC 2XS2000N-BG40WH/BG40BR	Digital printing	1,000	7
	BK993	PB Demandjet Gloss90 FSC 2XS2000N-40W HR/40W FSC	Digital printing	1,000	7
	BS322	PB Ther ECO BPA Free FSC S2000N/R5000N-2XBG40BR	BPA free	1,000	7
	BS352	PB Ther ECO BPA Free FSC 2XS2000N-2XBG40BR	BPA free	1,000	7
	BS333	PB Ther BPA Free FSC 2X2000N-2XBG40WH FSC	BPA free	1,000	7
	BS334	PB Ther ECO BPA Free FSC 2XS2000N-PET30 MR/BG40BR	BPA free	1,000	7
	BS323	PB Ther ECO BPA Free FSC 2XS2000N-40WH FSC/BG40BR	BPA free	1,000	7
	BT189	PB Therm ECO BPA FR FSC 2XS692N-PP50/BG40BR	BPA free	1,000	7
	BS324	PB Ther ECO BPA Free FSC 2XS2045N-40WH FSC/BG40BR	BPA free	1,000	7
	BS351	PB Ther ECO BPA Free FSC 2XS2045N-2XBG40BR	BPA free	1,000	7
	BS324	PB Ther ECO BPA Free FSC 2XS2045N-40WH FSC/BG40BR	BPA free	1,000	7
	AC184	PB MC Primecoat FSC 2XC2075N-BG40WH/BG40BR	Deep freeze adhesive	1,000	7
Removable	AD272	PB MC Primecoat FSC R5000N/S2000N-40WH/BR	Removable adhesive	1,000	7
	AE719	PB MC Primecoat FSC S2000N/R5000N-40WH/40BR	Removable adhesive	1,000	7

*Piggyback labels are not able to be combined with RFID. **Business day(s) (EXT) = Fasson®EXACT™ service

Multiple combinations of facestocks with adhesives other than those listed here are possible. See more of our adhesive range in our Adhesives Technical Guide.
Standard gum pattern is available on all products. The lead time will increase appropriately.

AVERY DENNISON

Gum twin constructions (GT)*

Key application	Code	Product Name	Description	MOQ(m^2)	Lead time**
General purpose	BA049	GT PET12 Top Clear 2XS692N-BG40BR/BG40WH	Clear general purpose adhesive	1,000	7
	AO812	GT PP Clear 2XS692N-PET23PT/40W FSC	Clear general purpose adhesive	1,000	7
	AQ321	GT PP30 Clear 2XS692N-BG40WH/BG40BR	Clear general purpose adhesive	1,000	7
	AE926	GT PET23 Clear 2XS692N-BG40BR/BG40WH	Clear general purpose adhesive	1,000	7
	BA047	GT PP40 Cavit White 2XS692N-2XBG40WH FSC	Clear general purpose adhesive	1,000	7
	AH710	GT PP Clear 2XS692N-2XBG40WH FSC	Clear general purpose adhesive	1,000	7
	AF878	GT MC90 FSC 2XS2045N-BG40WH/BG40BR	Clear general purpose adhesive	1,000	7
	AF663	GT Vellum Extra FSC 2XS2045N-2XBG40BR	Clear general purpose adhesive	1,000	7
	AA951	GT Vellum Extra FSC 2XS2000N-BG40WH/BG40BR	Clear general purpose adhesive	1,000	7
Special purpose	BH899	GT PP Clear 2XS4000N-2XBG40WH FSC	“No-label-look” adhesive	1,000	7
	AO482	GT PP NG Top White 2XS445N-2XBG40WH FSC	Excellent adhesion on very difficult and rough substrates	1,000	7
	BJ773	GT PP Top Clear S2045N/R3200N-BG40BR/45W	Permanent for smooth surfaces, very good in low temperatures/Reclosure adhesive	1,000	7
	AS116	GT PET23 S2085/2045N-BG40BR/40WH	Excellent adhesion on very difficult and rough substrates/Permanent very good in low temperatures and apolar surfaces	1,000	7
	AR234	GT Vellum Extra FSC R5100/S2045N-40BR/45WBSS	Removable adhesive/Clear general purpose adhesive	1,000	7
	AG066	GT Vellum Extra FSC 2XS697-2XBG40WH	High resistance to chemicals, heat and UV; shear resistance	1,000	7
	BO836	GT Vellum Extra FSC R100/S2660-BG40WH/BG40BR	Good mandrel performance, low temperature excellent adhesion on glass, PP, PE	1,000	7
Removable	AP072	GT PP NG Top Clear R 2XR5000N-BG40BR/BG50WH	General purpose removable adhesive	1,000	7

*All of these GT constructions are suitable for RFID applications **Business day(s)

Multiple combinations of facestocks with adhesives other than those listed here are possible. See more of our adhesive range in our Adhesives Technical Guide.
Standard gum pattern is available on all products. The lead time will increase appropriately.

AVERY DENNISON

Transfer tapes (TT)*

Key application	Code	Product Name	Description	MOQ(m^2)	Lead time**
General purpose	AF165	TT BG40BR S692N-BG40WH	Clear general purpose adhesive	1,000	7
	BO197	TT BG40WH S2045N-BG40BR	Smooth surfaces, very good in lower temperatures	1,000	7
	AC031	TT BG40 White LR S2000N-BG40BR	High initial tack, can be used on a wide variety of substrates	1,000	7
	AG075	TT BG40BR S4000N-BG45WH HR	“No-label” look adhesive	1,000	7
Special purpose	AF164	TT BG40BR S4700-BG40WH	High tack, good performance on rough substrates	1,000	7
	AX661	TT BG40BR S3100-BG45WH	UV hotmelt, good adhesion on apolar adhesives	1,000	7
	AM413	TT BG40WH S445N-BG40BR	Excellent adhesion on very difficult and rough substrates, very good in low temperatures and apolar surfaces	1,000	7
	AB593	TT BG40 Brown S695-BG40WH	Excellent UV resistance	1,000	7
	AO530	TT BG50 White S8049-BG50WH BSS	Very high adhesion on LSE and powder-painted, high chemical resistance	300	1
	AI337	TT BG40 White LR AL170-BG40WH HR	Very high ageing stability, excellent resistance against chemicals and heat	500	7
	AC328	TT BG40 White SIL C2075N-BG40BR	Good performance in low and very low temperatures	1,000	7
Removable	AE134	TT BG40 Brown R5000N-BG40WH	Removable adhesive	1,000	7
Pharmaceutical	BM484	TT BG40 Brown LR S692NP-BG40WH HR	Approved for pharmaceutical use, high UV, resistance very low migration	1,000	7
	BW065	TT PET23 S692NP-PET30 HR	Approved for pharmaceutical use, high UV resistance, very low migration	1,000	7

*All of these TT constructions are suitable for RFID applications **Business day(s)

Multiple combinations of facestocks with adhesives other than those listed here are possible. See more of our adhesive range in our Adhesives Technical Guide. Standard gum pattern is available on all products. The lead time will increase appropriately.

Let’s imagine the possibilities together

All great solutions begin with a conversation. We’re here to talk whenever you’re ready. Reach us at label.averydennison.com

For more information on technical performance and printing recommendations, please refer to the respective datasheets. Please note that the Avery Dennison product range and service offering can be subject to changes. For an accurate overview, please check our website label.averydennison.eu or contact your local Avery Dennison sales representative.

DISCLAIMER — © 2021 Avery Dennison Corporation. All rights reserved. Avery Dennison and all other Avery Dennison brands, this publication, its content, product names and codes are owned by Avery Dennison Corporation. All other brands and product names are trademarks of their respective owners. This publication must not be used, copied or reproduced in whole or in part for any purposes other than marketing by Avery Dennison. All Avery Dennison statements, technical information and recommendations are based on tests believed to be reliable but do not constitute a guarantee or warranty. All Avery Dennison products are sold with the understanding that purchaser has independently determined the suitability of such products for its purposes. All Avery Dennison’s products are sold subject to Avery Dennison’s general terms and conditions of sale, see terms.europe.averydennison.com.

AVERY DENNISON