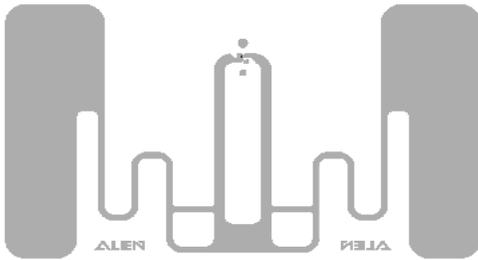


With cutting edge read/write sensitivity the Higgs-10 based ALN-10028 “GT-W” is an Auburn approved 30x50 RFID inlay that will attack all global inventory management challenges.



Applications

- Retail/Apparel
- Label
- Hang-tags
- Joker-tags

FEATURE	DESCRIPTION	BENEFIT
30x50mm form-factor ideal for garment hang-tags on shelves and rounders	Next generation Higgs-10 IC enables responsive performance in dense retail applications use cases on shelving and hangars	Reliable read rates in real-life, every day retail environments
Auburn™ retail category Compliance	Meets W1, W2, W3, W5, W6 A, B, C, D, F, G, I, K, L, M, N, & Q categories	Ensures consistent performance for all retail-type use-cases
Reliable read / write performance with Sentinel™ memory	Detects and fixes single bit errors and flags dual bit errors with 200K write cycles & 50 year memory retention	Safeguarded data and immunity to typical sources of single bit errors (chip damage, low power etc.)

Features:

- › Worldwide operation in all RFID UHF bands (860-960 MHz)
- › Global GS1 Class 1 Gen 2 (V1.2.0) and ISO/IEC 18000-6C compliance
- › Class leading read and write performance
- › 480 bits of NVRAM Memory
 - Up to 128 EPC bits (96-bits nominal)
 - Up to 32 User bits (with 96 bit EPC)
 - 48 bit Unique TID
 - 32 bit Access and 32 bit Kill passwords
- › User Memory may be Block Perma-Locked as well as read password protected
- › Low power operation for both read and write
- › *BlastWrite™* and *QuickWrite™* mass-encoding
- › Available in high-yield, high capacity dry/wet inlay rolls



Product Overview:

Ready for high-volume retail shelving and hangars, the 30x50mm Higgs™-10 UHF RFID IC based “GT-W” antenna design offers Auburn W-category approved performance for the highest volume enterprise, retail and general purpose applications.

Applications include (but not limited to):

- Apparel / Retail labeling
- Supply chain management
- Applications requiring robust readability in smaller size

Enhanced memory footprint includes a 48-bit Unique TID for authentication and serialization applications and password protected read and write support to prevent unauthorized viewing and modification of the tag’s data.

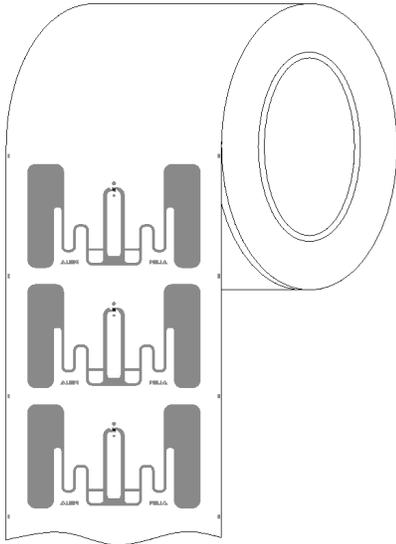
ALN-10028 inlays are World Tag compliant, enabling consistent operation across the diverse frequencies of the Americas, Europe, Middle East, Asia, and Africa.



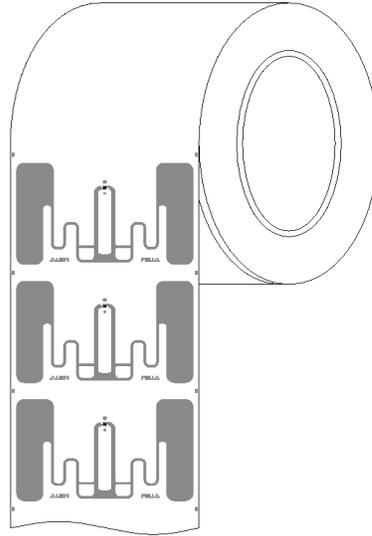
ALN-10028 "GT-W" Inlay

ALN-10028 Inlay Orientation

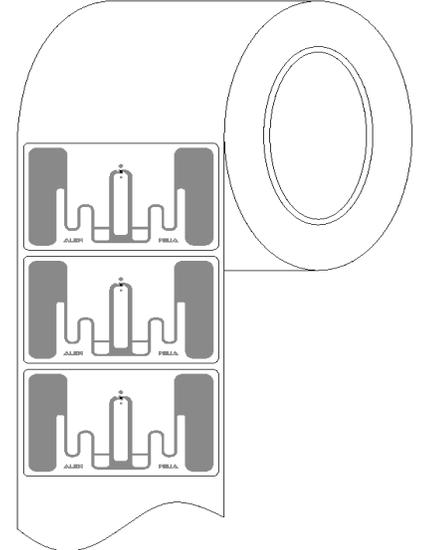
All dimensions in millimeters unless otherwise specified



ALN-10028-R
(Dry Unslit Roll)



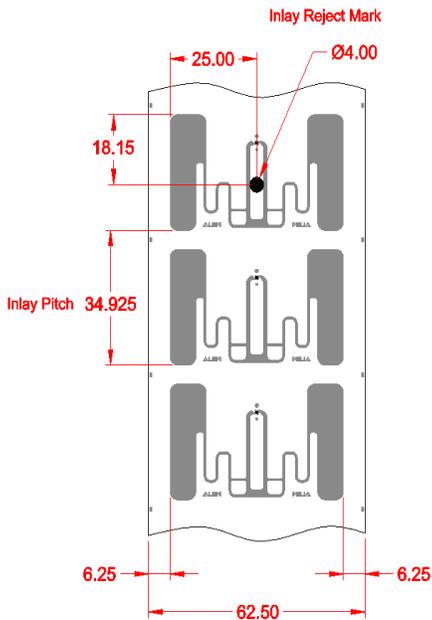
ALN-10028-SR
(Dry Slit Roll)



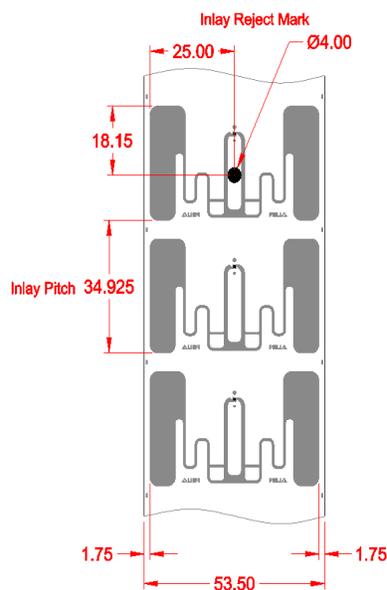
ALN-10028-WRW / -WRC
(White / Clear Wet Inlay)

Standard Alien Inlay rolls unwind with metal antenna side facing outward, with respect to the core.

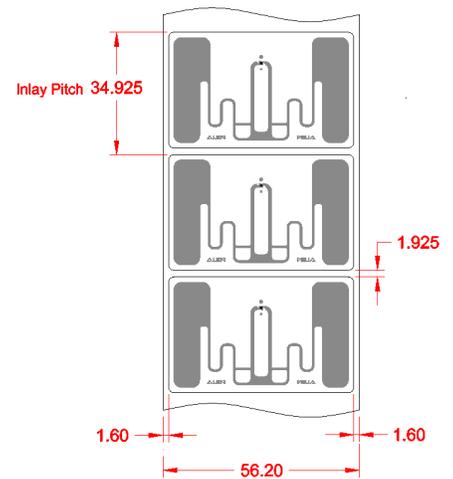
ALN-10028 Inlay Specification



ALN-10028-R
(Dry Unslit Roll)



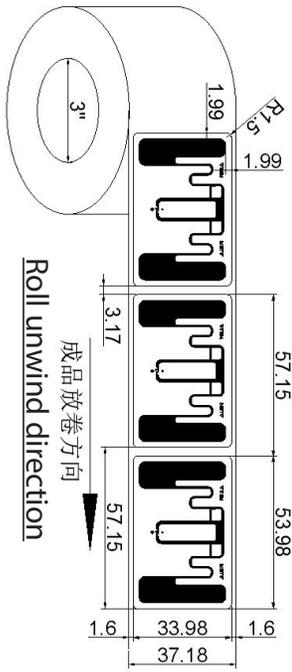
ALN-10028-SR
(Dry Slit Roll)



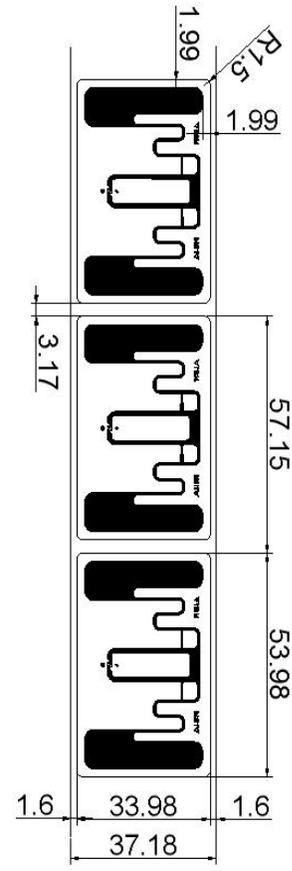
ALN-10028-WRW / -WRC
(White / Clear Wet Inlay)



ALN-10028-90WRC 90 Degree Rotated Dimensions

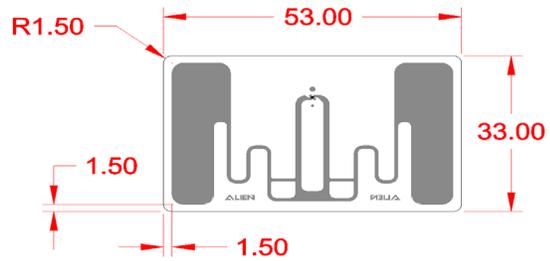
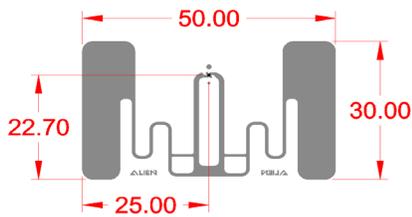


ALN-10028-90WRC
(90 Degree Rotated Roll)



ALN-10028-90WRC
(90 Degree rotated Inlay)

ALN-10028 General Dimensions





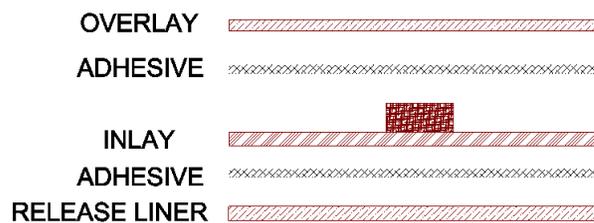
ALN-10028 “GT-W” Inlay

ALN-10028 Inlay Stackup

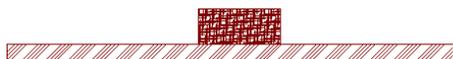
DRY INLAY THICKNESS $\pm 10\%$	
Over Antenna	0.06mm
Over Chip	0.24mm

WHITE WET INLAY THICKNESS $\pm 10\%$	
Over Antenna	0.16mm
Over Chip	0.32mm

CLEAR WET INLAY THICKNESS $\pm 10\%$	
Over Antenna	0.08mm
Over Chip	0.24mm



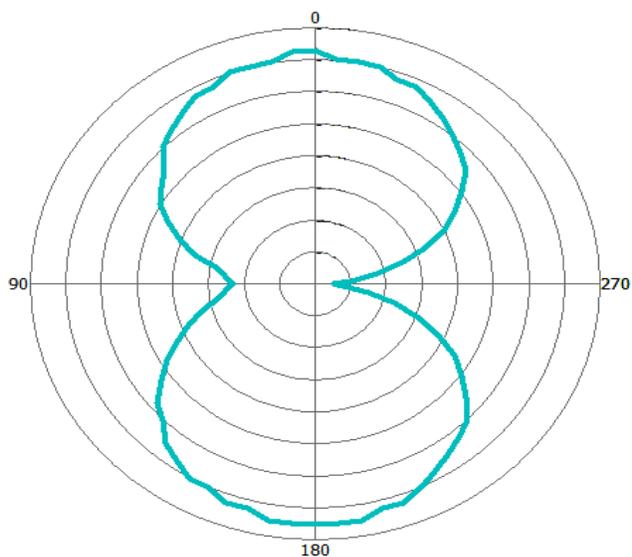
INLAY



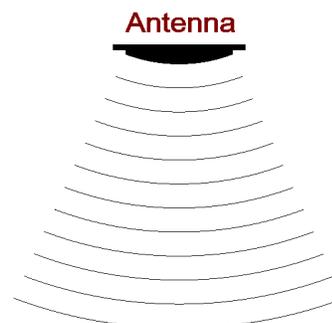
ALN-10028-R
(Dry Unslit Inlay)

ALN-10028-WRW / -WRC
(White / ClearWet Inlay)

ALN-10028 Inlay Angular Sensitivity



Angular Sensitivity
(Relative Read Range vs. Orientation)



Angular Sensitivity
Inlay is rotated in the x, y, plane about the z axis



ALN-10028 "GT-W" Inlay

ALN-10028 Specifications

Dry Inlay

Antenna Width	1.970" [50mm]
Antenna Length	1.180" [30mm]
Web Width (-R)	2.460" [62.50mm]
Web Width (-SR)	2.110" [53.50mm]
Web Pitch	1.375" [34.92mm]
Core Width (-R)	2.460" [62.50mm]
Core Width (-SR)	2.110" [53.50mm]
Core ID	6" [152.4mm]*
Core Material	Fiberboard
Inlays per Roll (-SR)	30,500 +/- 500
Inlays per Roll (-R)	12,800 +/- 500
Maximum Roll OD	<16" [406.4mm]

Wet Inlay

Inlay Width	2.090" [53.0mm]
Inlay Length	1.300" [33.0mm]
Web Width	2.210" [56.2mm]
Web Pitch	1.375" [34.92mm]
Core Width	2.210" [56.2mm]
Core ID	6" [152.4mm]*
Core Material	Fiberboard
Inlays per Roll	12,800 Nominal
Maximum Roll OD	< 16" [406.4mm]
Roll Labeling Data	Roll #, Quantity
White (-RW)	TT Printable White Film Only
Clear (-WRC)	PET base without Overlay
Overlay Adhesive	General Purpose Permanent
Inlay Adhesive	General Purpose Permanent
Adhesive Application Temperature	> +25°F [-4°C]
Adhesive Service Temperature	-40°F to +200°F
Release Liner Temperature	[-40°C to +93.3°C]
Release Liner	40# SCK

Environmental

Shelf Life	Dry Inlays: 5 years at +77°F [+25°C] @ 40% RH Wet Inlays: 2 years at +77°F [+25°C] @ 40% RH
Recommended Storage	+77°F [+25°C] @ 40% RH
Storage Limits	-13°F to 122°F [-25°C to +50°C] 20% to 90% RH Non-condensing
Operating Limits	-40°F to +158°F [-40°C to +70°C] 20% to 90% RH Non-condensing
Bend Diameter	> 1.97" [50mm]
Pressure	< 5N/mm ²
Drop Resistance	Per ASTM D5276
Write Cycles	200,000 @ 25°C
RoHs	2002/95/EC (RoHS 1), 2011/65/EU (RoHS 2), 2015/863 (RoHS 10)
REACH	EU 143/2011, EU 125/2012, Annex XIV of EC no. 1907/2006
ESD Limit- HBM / CDM	5.0kV / 1.5kV

RFID

Protocols Supported	ISO/IEC 18000-6C GS1 Class 1 Gen 2
Integrated Circuit	Alien Higgs™-10
Operating Frequency	840-960 MHz
EPC Size	Up to 128 Bits
User Memory	32 Bits (w/ 96 Bit EPC)
TID	32 Bits
Unique TID	48 Bits
Access Password	32 Bits
Kill Password	32 Bits

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HANDLING PRECAUTIONS Observe standard handling practices to minimize ESD.

DISCLAIMER Application recommendations are guidelines only - actual results may vary and should be confirmed. This is a general purpose product not designed or intended for any specific application.

This product is covered by one or more of the following U.S. patents: 7967204, 7931063, 7868766, 7737825, 7716208, 7716160, 7688206, 7659822, 7619531, 7615479, 7598867, 7580378, 7576656, 7562083, 7561221, 7559486, 7559131, 7554451, 7551141, 7542301, 7542008, 7531218, 7522055, 7500610, 7489248, 7453705, 7425467, 7417306, 7411503, 7385284, 7377445, 7364084, 7355598, 7342490, 7324061, 7321159, 7301458, 7295114, 7288432, 7265675, 7262886, 7260882, 7253735, 7244326, 7218527, 7214569, 7199527, 7193504, 7173528, 7172910, 7172789, 7141176, 7113250, 7101502, 7080444, 7070851, 7068224, 7046328, 6998644, 6983867, 6983361, 6980184, 6970219, 6952157, 6921355, 6933888, 6927085, 6816380, 6780696, 6731353, 6693384, 6683663, 6665044, 6657289, 6623579, 6606247, 6606079, 6590346, 6586338, 6566744, 6555408, 6527644, 6479395, 6468638, 6420266, 6216278, 6201305, 6281038. Other patents pending.

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