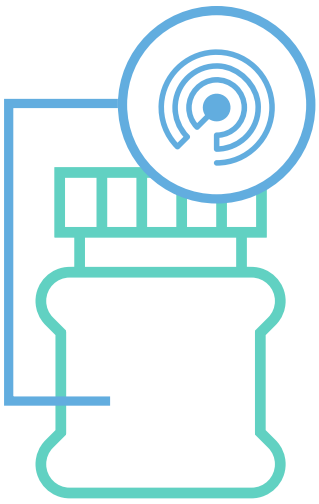
Converting RFID into the future



STARPORT
an mcc Company

On the Leading Edge of RFID

Using our specific operating and business strategy, we are able to provide some of the most competitive pricing available within the RFID market. As an approved converter for all major inlay manufacturers, we are able to provide many customers with lower costs than directly purchasing a converted RFID inlay from the inlay manufacturers.

Starport is rapidly growing, developing new partnerships daily, and actively seeking new challenges.

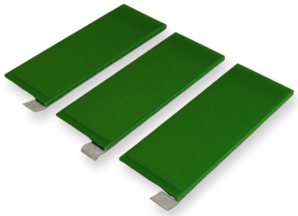
CONTACT
sroth@starporttech.com
for more information
on our partner program.

What is RFID?

Radio Frequency Identification (RFID) is a wireless technology that transmits information via radio waves. Since becoming commercially available in the 1970s, these systems have been used to identify and track inventory around the world. These systems provide numerous benefits over other auto-ID options They're not only wireless, but also don't require line of sight to monitor a product. For a variety of applications and industries, RFID technologies offer a long-term and durable solution for asset management.

The Anatomy of an RFID System (and How It Works)

RFID systems are composed of three main parts:

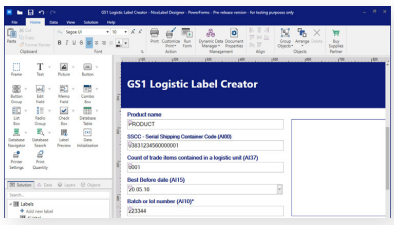


Tags

These are essentially USBs and are used to store valuable information about whatever they are attached to. Through radiowaves, they send this identifying information back to the reader. The amount of data stored in these tags can range from a single serial number to pages of information.

Readers

RFID readers are at the receiving end of the process. They're designed to take information from the tags and transfer it to the middleware. They use onboard antennae to scan for tags within range and collect what's required. Highly versatile, readers can be mounted in one place as a fixed scanner or shrunk down into a handheld device for on-the-ground monitoring. Some companies even mount them into cabinets or other fixtures for simplified inventory management.



Middleware

All that information is great, but people can't read radio waves. That's where this part of the system comes into play. Serving as the link between the reader and your information management systems, middleware handles communications between all components of an RFID system. Its main responsibility, however, is aggregating and interpreting the data collected from tags into something easy to digest.

3 Types of RFID Frequencies

RFID systems are sorted into various categories based on their frequencies

Low Frequency

The simplest and most affordable of RFIDs, these systems have frequencies between 30 to 300 KHz. They also have extremely short read ranges—rarely longer than a couple of centimeters. Their ability to transmit data is also limited. You'll often see low frequency systems used in livestock tracking and basic access control.

High Frequency

These systems typically have a read range of roughly a meter with larger storage capabilities than low frequency RFIDs. Systems in this bracket range anywhere from 3 to 30 MHz—but most of them come in at 13.56. This standard was established to comply with the near-field communication protocol (NFC) approved by the International Organization of Standardization (ISO). In recent years, these systems have gained popularity in interactive experiences, critical access control, and data transfer applications.

Ultra-High Frequency

RFIDs of this type fall between 300 MHz to 3000 MHz in frequency. Though more costly than the other two, they offer the best performance and the most complex capabilities. They also possess the farthest read range. How long this is depending on the type and brand of tag used. These systems are often utilized for tool and IT asset tracking.

The Importance of

Adhesives in RFID Tracking

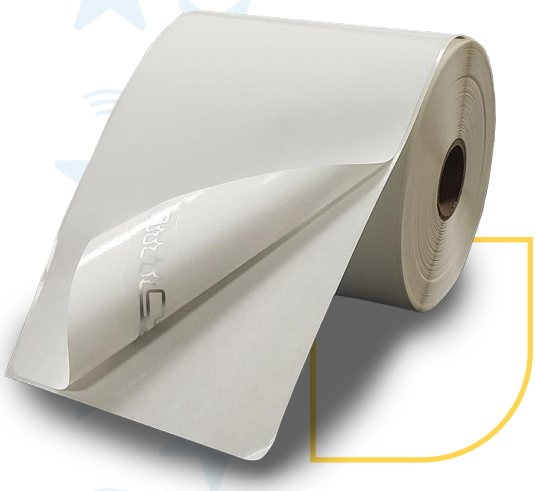
No matter what you're tagging, you need the right adhesive to ensure your labels stay in place.

Heat, rough handling, and dust can all strip off a tag that's not stuck securely. This can upset inventory levels and throws asset management out the door. For that reason, it's important to properly pair material and adhesive. Surfaces that are rough, oily, or painted will need special attention. But even bare metal can lose an improperly attached tag.

When it comes to attaching tags, most companies rely on one of two methods:

Pressure

Most adhesives function like a sticker. You peel off the tag's backing and stick it to the asset. This makes moving and removing RFIDs easy. Metal is compatible with a variety of pressure-based adhesives, including acrylics and those with a rubber base or extra-strong surface bond. Regardless of what type you need; our adhesive experts can help find a material that's right for you and your business.



Chemical

The most durable tagging systems often bond the RFID label to the asset. A variety of adhesives can be used for this purpose including epoxy, cyanoacrylate, and structural acrylic. Cyanoacrylate cures very quickly—often in a matter of seconds. While slower to stick, structural acrylics still dry relatively quickly and offer high levels of environmental resistance and above average peel strength. For applications that require chemical and water resistance, meanwhile, epoxy adhesives are the way to go.

Choose Starport Technology for RFID Adhesive Solutions.

With over 200 years of combined converting experience, the management team of Starport Technologies engineers and assembles custom RFID systems for a variety of industries. Starport Technologies has the ability to combine various face materials, adhesives, RFID transponders, printing, and other specialty coated web materials allowing for a unique combination of materials being converted into a single pass through the converting platform. This unique converting capability allows for Starport Technologies to offer a wide range of RFID products and other types of smart labels for numerous functional purposes.

Stock Items

In addition to our stock items we also offer over 150 different inlays and over 200 types of materials to make exactly what is needed for any RFID project.

Industrial

Desktop

Mobile

Please see page 7 of this brochure for standard material descriptions.

Vertical Markets Services

- Aerospace
- Animals
- Defense
- Food and Beverage
- Health and Beauty
- Horticulture
- Logistics
- Manufacturing
- Medical/Pharmaceuticals
- Retail
- Supply Chain
- Warehouse management

Standard Material Descriptions

BOPP

A biaxially-oriented, co-extruded polypropylene film, with good opacity and a bright white high gloss background. This face stock has excellent moisture resistance, and the surface has been top coated to provide superior printability. The standard adhesive is a clear, general purpose permanent acrylic adhesive. Adhesion performance is designed for low surface energy substrates, enabling lasting performance on rigid and squeezable containers. It has been specifically designed to exhibit excellent wet-out characteristics and water-whitening resistance with a service range of -40°F to 175°F.

DT Film

A high sensitivity polypropylene direct thermal film stock with high image durability against most environments with a service range of -40°F to 122°F.

DT Paper

A direct thermal top coated label stock that is durable, has high sensitivity, strong resistance to plasticizers, and prints at high speeds. It has a general-purpose permanent adhesive with a service range of -40°F to 122°F.

PET

A 2-mil white polyester facestock featuring excellent tear strength, heat resistance, dimensional stability, opacity, and chemical resistance. The adhesive is a high performance, clear permanent solvent acrylic with balanced adhesion to a wide variety of substrates, including low surface energy plastics, engineering grade plastics, bare, coated, or painted metals, including powder coat and enamel paints. It features medium tack for good short-term repositionability, low ooze, and excellent chemical and UV resistance for outdoor industrial applications with a service range of -40°F to 302°F.

Synthetic

A 3-mil matte white polypropylene synthetic material with the look and feel of paper and the moisture-resistance of a film. Excellent opacity for dark bottles and top-coated for great printability. Adhesive is a clear general purpose permanent adhesive featuring good initial tack and ultimate adhesion to a wide variety of substrates with a service range of -40°F to 300°F.

TT Paper

An ultra-smooth, matte-coated, lignin free paper material for excellent thermal transfer printing and flexography. The adhesive is a general purpose, clear permanent adhesive that adheres well to normal substrates including those that are exposed to low temperatures. Ideal for all labeling applications and substrates such as glass, corrugated cardboard, and most plastics with a service range of -4°F to 176°F.

816.891.9944
StarportTech.com
10601 NW Ambassador Drive
Suite H, Kansas City, MO 64153

Stock Items

Industrial Labels & Tags - 3" Core, 8" OD

PART #	TYPE	WIDTH	LENGTH	INLAY & CHIP	MATERIAL	PERF	EYEMARK	LABELS/ ROLL	MAX	MIN
O138C01X246003	Label	1.75"	0.75"	EOS-241 U8	TT Paper	Yes	No	5000	200	50
O092C01X262003	Label	2.375"	1.375"	SP Orion M730	TT Paper	Yes	No	3000	100	10
O150C01X255003	Label	2.9"	0.59"	EOS-430 M730	TT Paper	No	No	5000	50	10
O154F05X215003	Label	3.82"	1.065"	EOS-500 U8	Poly	No	No	2500	50	5
O109C01X228003	Label	4"	0.5"	SP Nova U8	TT Paper	No	No	5000	50	5
016C01228003	Label	4"	1"	SP Nova U8	TT Paper	No	No	5000	25	5
134C01228223	Label	4"	2"	SP Nova U8	TT Paper	Yes	No	2000	50	10
128C01228223	Label	4"	6"	SP Nova U8	TT Paper	Yes	No	1000	50	10
128R02228123	Label	4"	6"	SP Nova U8	DT Paper	Yes	Yes	1000	10	10
234A03X18600C3	Hangtag	3.25"	1.5"	ARC Approved	TT Tag	Yes	Yes	2000	10	5
123A03X22822C3	Hangtag	4"	2.125"	SP Nova U8	TT Tag	Yes	Yes	1500	10	5
4.5" Pot Stake	Hangtag	4.5"	1.125"	EOS-241 U8	UV Styrene	Yes	No	2000	10	5
6" Looptag	Hangtag	6"	1.125"	EOS-241 U8	UV Polylith	Yes	Yes	2000	10	5
O142F05X218003	Label	0.984	0.61	BT713 U8	Poly	No	No	5000	10	5

Desktop Labels & Tags - 1" Core, 5" OD

PART #	TYPE	WIDTH	LENGTH	INLAY & CHIP	MATERIAL	PERF	EYEMARK	LABELS/ ROLL
O138C01X246001	Label	1.75"	0.75"	EOS-241 U8	TT Paper	Yes	No	2500
O092C01X262001	Label	2.375"	1.375"	SP Orion M730	TT Paper	Yes	No	1000
134C01228221	Label	4"	2"	SP Nova U8	TT Paper	Yes	No	1000
128C01228221	Label	4"	6"	SP Nova U8	TT Paper	Yes	No	300
O109C01X228003	Label	4"	0.5"	SP Nova U8	TT Paper	No	No	2500
128R02228121	Label	4"	6"	SP Nova U8	DT Paper	Yes	Yes	300

Mobile Labels & Tags - 0.75" Core, 2.2" OD

PART #	TYPE	WIDTH	LENGTH	INLAY & CHIP	MATERIAL	PERF	EYEMARK	LABELS/ ROLL
128R0222812A	Label	4"	6"	SP Nova U8	DT Paper	Yes	Yes	75