



WHITE PAPER

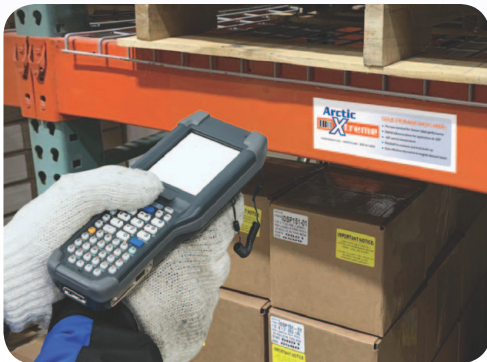
BUYER'S GUIDE TO WAREHOUSE FREEZER LOCATION LABELS

Cold Storage Solutions

Barcode labeling in cold storage areas offers a unique set of challenges for warehouse operators. Standard do-it-yourself labels are not likely to perform reliably. Conventional adhesives will harden in the frigid environment and the labels are likely to peel and fall from their rack beams in short order.

Beyond the label construction, other key performance factors include rack surface finishes and the facility's temperature at both the time of installation and when in service.

This ID Label white paper looks at some of the key factors warehouse operators should consider. And we provide a convenient product grid that highlights proven combinations of materials, adhesives and performance attributes.



For today's cold and freezer logistics environment, the quality of your warehouse barcode labels is especially important. Moisture and frost build-up can affect label performance and lead to failed scans.

Finding effective labeling solutions for warehouse freezer locations can be a real challenge. There are numerous environmental factors that affect performance, from the installation conditions and service temperature to the adhesives and materials used to manufacture the barcode labels.

Standard do-it-yourself labels are not likely to perform reliably. Conventional adhesives will harden in the frigid environment and the labels are likely to peel and fall from their rack beams in short order.

The condition of the surfaces to which the labels will be applied and the temperature at the time of installation are also critical factors.

Proven Label Options for Cold Storage Environments

LABEL TYPE	MATERIAL	ADHESIVE/ BACKING	KEY ATTRIBUTES AND USES	DURABILITY
Arctic Xtreme™ Poly Rack Label	Pressure-Sensitive Film	All-Temp Permanent Adhesive	<ul style="list-style-type: none"> • Application as Low as -20°F • Service Temperatures from -65°F to +300°F • Warehouse Rack Beams • Cost-Effective Value 	<ul style="list-style-type: none"> • Extremely Durable, Permanent Adhesive • Less Expensive than Magnet-Backed Labels • Resistant to Moisture, Abrasion and Chemicals • Custom designs, sizes and colors
Magnetic Rack Label	Pressure-Sensitive Film	Magnet	<ul style="list-style-type: none"> • Service Temperatures down to -65°F • Warehouse Rack Beams • Lasting Performance 	<ul style="list-style-type: none"> • Extremely Durable • Resistant to Moisture, Abrasion and Chemicals • Easy to Install • Repositionable
Vertical Location Label	Pressure-Sensitive Film	Magnet	<ul style="list-style-type: none"> • Service Temperatures down to -65°F • Vertical Upright Racking • Lasting Performance 	<ul style="list-style-type: none"> • Extremely Durable • Adheres to "Tear-Drop" Style Uprights • Easy to Install • Repositionable • Supports Color-Coded Tier Identification
LPN Label	Pressure-Sensitive Film	Freezer-Grade Permanent Adhesive	<ul style="list-style-type: none"> • Service Temperatures from ambient to -65°F • Pallet Label • Bulk Storage Marker 	<ul style="list-style-type: none"> • Durable • High-Quality Materials • Custom designs, sizes and colors

"There are a lot of variables that have to be considered," said Gregg Schiltz, ID Label's chief operating officer.

"As we've learned from working with thousands of companies, many environments are unique. It's critical to understand all the conditions. We typically recommend testing several options before proceeding with a full-on installation."

Key Considerations for Cold Storage Warehouse Label Applications

1. What is the service temperature of the freezer area?

Understanding the operating temperature is an obvious but important item to address with your label manufacturer.

"There are several different permanent adhesive options to consider, depending on the service temperature," Schiltz said. "Some are rated at minus 20 Fahrenheit, while others will perform well all the way to minus 65."

2. At what temperature will the labels be applied? On what surface type?

Another important item of consideration on the buyer's checklist is understanding the application (i.e., installation) conditions.

"If the facility is new and the freezer area temperature has not yet been drawn down, the range of adhesive options is fairly wide," Schiltz said.

"If, on the other hand, you're labeling or relabeling a live facility at sub-zero temperatures, you'll want to make sure the label adhesive is rated for application under those conditions. For instance, our Arctic Xtreme™ label can be applied in temperatures as low as minus 20F."

Another important factor is the surface on which the labels will be applied. Many adhesives will bond well with painted metal, powder coatings, plastics and other surfaces. For upright racks with "teardrop" holes, magnetic labels are highly recommended.

For maximum adhesive bond strength, surfaces should be clean and dry, free of moisture and frost.

3. Is your facility a controlled environment?

The quality of warehouse barcode labels is especially important in today's cold and freezer logistics environment.

Moisture and frost build-up will affect warehouse freezer location label performance. Facilities in humid environments without any air conditioning outside of the freezer area are particularly susceptible.

"Using poorly constructed labels—perhaps in hopes of minimizing costs—can end up being the most expensive option if your labels quickly curl, crack or encounter frost build up," Schiltz said. "Any of these scenarios are likely to cause failed scans."



A poorly controlled environment can affect magnet labels, too. Frost can build up between the magnet and beam, making it more likely that the label can fall or be knocked to the ground – potentially cracking on impact.

With workers who are probably wearing bulky gloves, being forced to manually enter data due to failed scans is particularly inconvenient and time consuming. Not only is this a drain on productivity, there is greater opportunity for costly mistakes due to human error.

Labels constructed with pressure-sensitive film and freezer-grade adhesives – with a protective laminate

coating – perform quite well. "They're resistant to moisture, chemicals and abrasions," Schiltz said. "And as noted earlier, some are rated to perform up to minus 65 Fahrenheit."



ID Label's Arctic Xtreme™ features a premium freezer-grade adhesive specially formulated for maximum adherence in cold storage environments.

"Magnet labels are durable, scan reliably and are easy to install and move—especially in live facilities where the temperature has been drawn down," Schiltz said. "For upright racks with 'teardrop' holes, we highly recommend magnetic labels. The surface area of uprights isn't suited to tacky adhesives."

4. Should you opt for a magnet or adhesive-backed location label?

The answer to this question is a firm it depends.

Magnet rack labels are typically more costly than adhesive labels, but they offer high return on investment.

Learn More

As we've stated, finding the most effective labeling option for your freezer storage needs can be a challenge. There are numerous environmental factors and options to consider. To learn more about your warehouse freezer barcode label choices and to request samples for testing in your environment, [contact ID Label](mailto:info@idlabelinc.com) today.

HOW TO PROPERLY INSTALL FREEZER LABELS

- 1. Acclimate 24 hours**—Place the labels in the cooler/freezer area in which they will be applied at least 24 hours in advance. It is imperative that the materials and adhesive acclimate to your environment before you apply labels to your rack beams.
- 2. Apply to clean, dry surface**—Ideally, the beams should be clean and free from moisture (which can be a challenge in a freezer environment). Wipe the application area with a clean rag and some isopropyl alcohol.
- 3. Press firmly**—Use your full hand, including adequate palm pressure, to apply the labels smoothly and eliminate any air bubbles. Pressing firmly helps to ensure a maximum bond to the beams.
- 4. Allow 48 hours for bonding**—Allow 48 hours for bonding to occur before checking adhesion to substrate.

With the industry's most advanced digital technology footprint, ID Label Inc. is one of the nation's leading manufacturers of custom, variable-information barcode labels and asset tags.

Our solutions are used by thousands of global organizations to keep their businesses moving with efficiency, speed and accuracy. Our expert sales consultants are passionate about working with our customers to provide smart ideas and innovative products.

