

# White paper

## How to secure chilled and frozen meat products



In food retail, stealing meat is a serious issue. Each year millions of pounds disappear from the shelves leading to significant losses. As standard solutions do not provide sufficient protection, the challenge of securing meat really puts a retailer's loss prevention strategy to the test. This white paper explains the options of (source) tagging chilled and frozen meat products with dedicated electronic article surveillance (EAS) labels. Topics include the label selection criteria, consumer safety aspects and label design options.

### Label selection criteria

We will take a look at four different phases in the product journey, because the label is typically attached to the packaging at an early stage and is not removed until the meat is prepared at the consumer's home. Therefore, to ensure the best performance, the label has to fit all stages of the product journey as summarized below.

Phase	Label selection criteria
Label application	<ul style="list-style-type: none"><li>• Proximity to the product</li><li>• Type of packaging</li><li>• Temperature / humidity</li><li>• Location</li></ul>
Shelf	<ul style="list-style-type: none"><li>• Shelf life / expiration date</li><li>• Storage temperature</li></ul>
Point of sale	<ul style="list-style-type: none"><li>• Deactivation speed</li></ul>
Consumer	<ul style="list-style-type: none"><li>• Tests &amp; certifications</li><li>• Label design &amp; warning messages</li></ul>

*Label selection criteria for securing meat*

Each of these four phases and the consequences for label selection are discussed in detail in the following.

### 1. Label application

When securing chilled or frozen meat products, it is essential to choose an EAS label that is suitable for the environmental influences. To ensure the best deactivation and detection performance, it is not only vital to consider the actual product and packaging, but also where the label is applied and under which conditions. Key factors to determine which EAS label to use on chilled or frozen products are:

- Product
- Packaging
- Temperature
- Humidity
- Location (in-store vs. at source)

Depending on these conditions, different types of labels need to be selected to make sure that the EAS labels perform best. When goods are tagged in the store, for example, the products have often been in humid and low temperature conditions for quite some time. This leads to the development of condensate, which can cause standard EAS labels to slide off the packaging.

When applied at source, the conditions are typically relatively controlled and applying the EAS label is usually part of the (post) packaging process. Therefore, standard labels work fine in most cases, as the surface of the packed product is still dry and adhesion is guaranteed.

Another important aspect is the proximity of the label to the actual product. When applied extremely close to the products, standard EAS labels can detune and perform less well. In these cases, it is advisable to consider EAS labels that are less sensitive to detuning as detuning can have a negative effect on the label detection at the EAS antennas.

## 2. Shelf

Another key factor is the product shelf life, because long-term moist conditions also have an impact on performance. Products that are chilled for a longer period and are therefore moist will cause lower performance. To solve this, it is advisable to select RF labels that are more resistant to moist conditions.

For deep frozen products, which are likely to have an even longer shelf life, it is important to select labels that perfectly stick to the packaging. Standard EAS labels can fall off the packaging when exposed to very low temperatures over a longer period of time.

## 3. Point of sale

The point of sale is a key element in the EAS system, because the scanning speed and accuracy is essential to guarantee a fast, customer-friendly check-out procedure and prevent false alarms at the EAS antennas. While false alarms are of course annoying for your customers, they also lower staff confidence in the EAS solution.

### Deactivation speed

To optimally serve paying customers, it is crucial that labels can be deactivated without errors. As labels are deactivated during barcode scanning, it is important that the labels can be deactivated at the same speed as scanning. As a consequence, the deactivation electronics also need to be able to cope with a high scanning speed (of up to 45 deactivations per minute) in order not to interfere with the cashiers' scanning procedures.

## 4. Consumer

Consumer safety is of course a top priority for any food retailer. In that respect, it is important to select labels that are certified for food application and that adhere to food safety management protocols. As the EAS label is applied on the meat packaging and not on the meat itself, labels certified for indirect food application are the best choice here.

### Microwave-tested labels

In many households, time is precious and food preparation needs to be as time-efficient as possible. Therefore, it is likely that customers will put products in a microwave oven without removing the EAS label and/ or the packaging before defrosting or cooking the product (despite the warnings and instructions).

The problem is that certain EAS labels can cause serious damage when placed into a microwave. By selecting microwave-tested labels with an official test report from an independent test institute and a clear warning message on the label, retailers can prove that they have done everything within their power to protect their customers in case of related claims.

### Label design & warning messages

In food retail, the appearance of the product is naturally a very important factor when it comes to attracting and informing customers. While some retailers prefer an invisible EAS label that completely blends in with the packaging, others prefer to have a visual deterrent that clearly signals that the product is secured. The most unobtrusive solution is to sandwich an (auto) apply label under the brand or price label that is applied to the outer packaging. Other typical design options include dummy barcodes, warning messages or labels that are completely designed according to the specifications of the retailer to make it look like a promotional sticker rather than a security label.



Typical design options are:

- Invisible (auto apply) label
- White or black
- Dummy barcode
- Brand or marketing message
- Warning message (e.g. security protected)

## Conclusion

Due to specific product characteristics, chilled and frozen meat products demand another type of EAS label than the standard soft labels. In order to best protect these products, retailers need to consider the product conditions, the deactivation speed and their customers.

With regard to the product, the combination of packaging, storage temperature and shelf life are the primary factors to consider in the label selection process. From the consumer perspective however, reliable deactivation is important to prevent unwanted alarms and make sure your customers do not get into an uncomfortable situation. In addition to this, retailers need to make a choice concerning the visibility of the label and consider the risk of labelled products being placed in microwave ovens to select the best possible solution for securing this high (theft) risk product group.