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intelligent identification

The Ultimate Guide to Pallet Labelling

How to create supermarket compliant SSCC labels, common errors & how to avoid making them

Version 1.0

ABOUT OUR ULTIMATE GUIDE WHITE PAPER SERIES

Our vision is to enable Australian makers & movers to provide their products to consumers safely & efficiently. Our Ultimate Guide series aims to support this vision by distilling and sharing over 40 years of coding & marking expertise with the Australian manufacturing industry. We hope your business is able to benefit from the information shared within this document.

Executive summary

Australian retailers have been gradually implementing pallet-labelling requirements since the early 2000s. With the increasing move to automated scanning in warehouses and distribution centres, it is imperative that suppliers (and all logistics partners) ensure 100% scannability of every bar code.

An industry study found some 83% of Australian suppliers use SSCC pallet labels, yet another study found 44% of those labels had problems.

A label printer applicator (LPA) with an unattended scanner integrated with software such as iDSnet on the packaging line to automate the print, apply and verify process for both GTIN carton and SSCC pallet labelling can resolve these issues.

This paper examines the uses of SSCC labelling, its benefits, the issues with incorrect pallet labelling and the solution in detail.

Contents

What is an SSCC pallet label?

A Serial Shipping Container Code (SSCC) uniquely identifies every pallet, and that pallet's contents — very much like a number plate uniquely identifies every car — from the sender to the final recipient. It is an 18-digit number, which remains the same for the life of that pallet, and is effective world wide.

SSCC standards make the supply chain more efficient, by enabling:

- Faster receiving and quick turnaround
- Improved data integrity (use-by date and quantity fields)
- Better stock rotation (based on use-by date)
- Pallet tracking (from seller to retailer can help with product recalls)

Benefits to industry

A major benefit of the SSCC is that all trading partners in the transport and distribution chain can use it, by adding information to share as the pallet moves through the supply chain. So not only can each pallet's full movements be individually tracked and traced through this information ow, it creates the opportunity for cross docking, shipment routing, automated receiving and so on.

The benefits to industry are numerous, including:

- That GS1 standards are global and apply through the entire supply chain, from the raw-materials supplier to the manufacturer to distributor/wholesaler and then to the end user/retailer
- They provide a link with bar-coded information that's communicated between trading partners via electronic business transactions
- They contribute to efficiently managing stock rotation at a glance
- The same information does not have to be repeatedly keyed in, thereby saving time and resources
- Using an industry standard avoids multiple label types
- The SSCC can be used for both inter and intra-company transactions
- The SSCC works in conjunction with despatch advice and advanced shipping notice (ASN)

Logistics Label

EAN UPC

EAN UPC

ITF-14

GS1-128

Level 1
Retail Item

Level 2
Grouping of retail Items

Level 3
Logistics unit

Who allocates the SSCC?

The company putting together the logistics unit — the pallet — assigns the SSCC. (The SSCC is encoded

in a GS1-128 Bar Code and is represented by the Application Identi er (AI) 00.) An individual SSCC cannot be reallocated within 12 months of the shipment date from the SSCC assignor to a trading partner.

GS1 is the international body responsible for utilising open standard e-commerce technologies to achieve best practice supply chain management. GS1 can advise on content and technical specifications for an SCCC.

Use in Australia

Australian supermarkets have been implementing pallet-labelling requirements in their distribution centres (DCs) since the early 2000s, wanting the unique SSCC logistic labels so they can scan pallets delivered into their DCs on receipt.

An Australian Food and Grocery Council supply chain survey in 2010 highlighted that 83% of suppliers use an SSCC.

Why accurate labels are important

Increasingly, end-to-end product traceability is becoming a key concern for retailers and consumer bodies. Pallet labelling is a key step in ensuring traceability throughout the supply chain.

Any warehouse or DC needs to store and dispatch pallets based on the type of product, expiry dates, the manufacturer and other information on the SSCC label.

DCs are moving more and more towards automation, and this, on top of the high volumes they handle, makes correct labelling critical.

Incorrect labels:

- Cause the automated system to fail
- Cause delays in the process because manual intervention is needed (DC staff need to re-key pallet details to print generic labels then and apply them)
- Add direct or indirect costs — or both

A major issue with incorrect or faulty SSCC labels is the loss of traceability. This can have severe cost impacts if a product recall occurs in the future.

Supplier
Applies Original SSCC

→

Transporter
Uses SSCC for internal controls and tracing

→

Distributor
Receives SSCC
Uses SSCC for internal controls and for outbound shipments

→

Transporter
Uses SSCC for internal controls and tracing

→

Customer
Receives Original SSCC

The Costliest Mistakes with SSCCs + How to Fix Them

Mistakes happen in labelling. However, the mistakes you make with SSCC labels can have expensive repercussions for your business and your customers.

Why? Because retailers rely on SSCC pallet labels (aka logistics labels) to efficiently and accurately process inbound pallets into DCs.

The industry standard for logistics labelling is a Serial Shipping Container Code (SSCC), which uniquely identifies the individual pallet and ensures the pallet's movements can be individually tracked and traced throughout transport and distribution,.

But here's the problem:

Behind pallet issues, bad SSCC labelling is now the highest cause of delay and rejection of goods with major retailers. It's no wonder many major retailers like Woolworths and Coles have no choice to impose penalties for pallet labels that don't meet their standards.

The solution?

By understanding the most common failures, you can put processes and procedures in place to avoid them and achieve full compliance before shipping your goods.

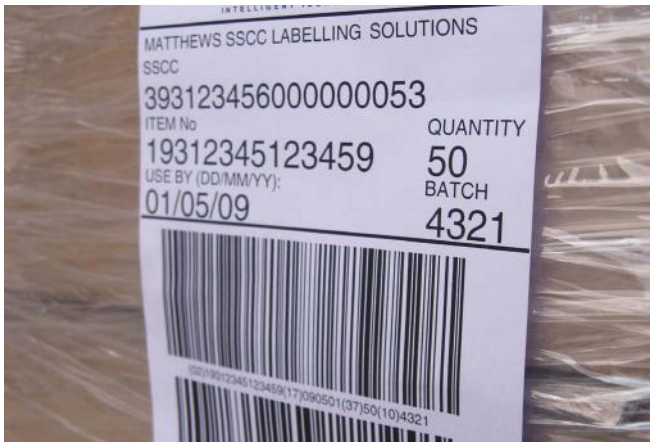
In this article, we reveal the top SSCC mistakes in Australia according to retailers in 2019, and how to fix them.

Most Costly SCCC fails

1. Incorrect SSCC Format Setup

One of the most common problems retailers experience with SSCCs is the wrong data and format.

It's easy to see why – SSCC labels include a lot of information and it can be overwhelming to get it right.



We have identified the most common mistakes suppliers are making with SSCC formats into retailer distribution centres around Australia that are significantly contributing to SSCC non- conformance nationally.

These are:

- SSCC labels with incorrect barcode symbology. A common issue is Suppliers SSCC barcodes are Code-128 and not GS1-128. This is a simple formatting error when creating the SSCC template on your software.

- Date Code not populating or incorrect date code in the top product barcode of the SSCC. Did you know that the date code fields are compulsory? Encoded in the barcode with either Use By – Application Identifier (17) or Best Before Application I (15)) and that the human readable in on the SSCC reads as DD/MM/YY BUT in the barcode it must be YYMMDD. According to one major retailer, date code not populating or incorrect date code format is now the biggest reason for SSCC non-conformance today in their DCs throughout Australia.

- Quantity not populating. Like date code, quantity of cartons on the pallet is compulsory. Represented in the Top Product Barcode with Application Identifier – AI - (37), leaving this field as blank or not printing quantity at all causes this to rate in the top specific issues with SSCC non-conformance today.

- Batch code not populating. Batch code is an option in the Top Product Barcode of an SSCC label. However, many Suppliers to the major retailers are still printing with Application Identifier - AI (10) in the top barcode but not printing an actual batch code following. This is causing the automatic induct systems at one major retailer to reject the entire consignment. If you don't have a batch code on the SSCC then don't print AI - (10) in the barcode.

- SSCC number already in the system. The bottom barcode of an SSCC format is your SSCC number. Simply put your unique license plate for each pallet. The software should be designed to avoid repeating SSCC numbers. There are a number of simple ways to avoid this issue from occurring. Especially if you operate and print SSCC labels at different locations throughout Australia.

How to fix it:

Take your time getting the SSCC right from the start. You, as the company putting together the pallet, are responsible for assigning the SSCC. GS1 Australia manages the standards for SSCC codes. Our recommendation is to talk to GS1 or your SSCC barcode software provider to ensure your SSCC format is correct and the data is being entered in correctly.

Once you have your SSCC, you can create your pallet label. This needs to include both human-readable text and scannable symbols including:

- Supplier details
- Serial Shipping Container Code (SSCC)
- Product description
- Product GTIN
- Carton quantity on pallet
- Date Code information encapsulated as either Use By or Best Before and
- Batch code (if applicable). With batch code, remember this is optional and if you don't use then make sure you don't print AI – (10) and then leave blank.

Next, get familiar with the strict standards for SSCC labels.

Here's what makes a good SSCC label, according to GS1 Australia.

- SSCC is unique for each pallet and has not been issued in the last 12 months
- SSCC and product information barcodes are printed in GS1-128 symbology
- Quiet Zones (light margins) are not infringed
- SSCC barcode magnification is between 48.7% and 92.5%
- Product information barcode magnification is between 25% and 100%
- All barcodes are at least 32mm in height
- Human readable information is located below barcode symbology, no less than 3mm height, and is clear and legible.

Pro Tip: Your pallet labels should be compliant with both GS1 Australia and your customers, the retailers. Check their supplier guides to know exactly what is required and if in doubt utilise the GS1 verification service.

2. Poor Print Quality

More than one in ten labels has poor print quality when you take in the Top product barcode or bottom SSCC barcode not scanning at major retailer DCs. This could be as simple as fine line breaks running through the label caused by dirty or damaged print heads and generally a lack of good internal housekeeping to keep your printer in top condition.

If your top product or bottom SSCC barcode label can't be scanned, it causes significant disruption to the inbound receipting of your pallets into the DCs. As new and highly automated DCs are coming on line, this issue of print quality and barcodes not scanning is only growing, causing your products to be more and more rejected.

How to fix it:

One of the best ways to ensure 100% quality is to check your printer regularly.

Are operators cleaning the printhead and rollers? Not cleaning these regularly is the biggest cause of bad print quality. Build-up can cause lines in the print or the printhead elements may have failed.

Which printer are you using: **direct thermal or thermal transfer?** Thermal printers use a series of tiny heating elements in the print-head that cause the label to turn black when heated. The temperature changes can cause irregularities in the way the lines and images on the label are printed. That said, **thermal transfer** is a great option for SSCC labels, as the print can withstand long exposure to sunlight, friction, changes in temperature and dampness, Direct thermal on the other hand is perfectly suited to cold environments where it is not exposed to such extremes.

Pro Tip: Another consideration for print quality is whether you are using a **Picket Fence vs Ladder orientation** for printing your barcodes.

As a general rule, printing your barcodes in picket fence gives a higher quality barcode than printing in a ladder orientation. Printing in ladder also impacts the size or magnification that you can print your barcode in as well. Printing picket fence, the bar edges tend to be straighter and crisper and therefore will give you a much higher and successful scan rate through the supply chain.

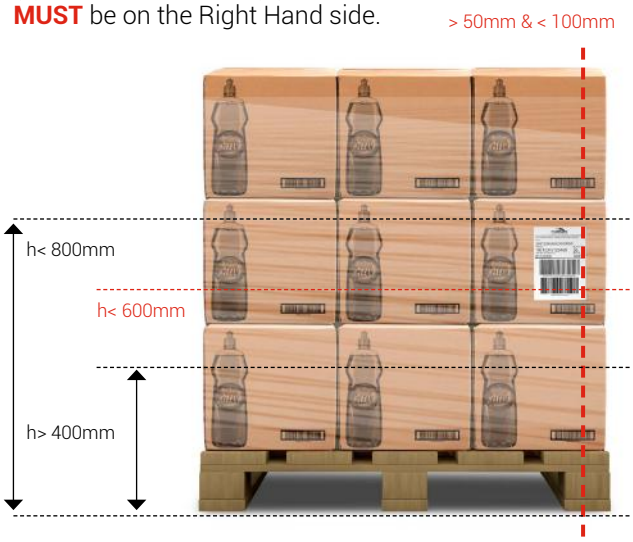
3. Wrong Label Locations

The location of labels is critical. But many manufacturers are putting SSCC labels in the wrong position on pallets or cases.

In Australia the GS1 standards are very clear in outlining the requirements of two SSCC labels on fork side entry side of a pallet. Here is a quick diagram from GS1 showing correct SSCC pallet label placements:

Correct Pallet labelling Placement

Place label between Min. 400mm (h) & Max. of 800mm (H), & **MUST** be on the Right Hand side.



Did you also know that additional 3PL or transport labels applied to the pallet can also have a signification disruption to the inbound automated receipting of your pallets into the DCs? Multiple labels on a pallet, causing scanning issued at inbound receipt is in the TOP5 of reported issues with SSCC non-conformance across Australia by one major retailer.

How to fix it

For location, the most important check is that the two SSCC labels are positioned in the 400-800mm zone on both fork entry sides of each pallet. That means 400mm and 800mm from the pallet base, no closer than 50mm and no further than 100mm from the right-hand vertical edge as per the above diagram.

Pro Tip: 3PL and transport labels are at times a necessity to get your pallets through the supply chain to the retailer DCs on time. If these labels are required and to stop the automated induct receipt scanners at the DCs accidently scanning these labels, make sure these labels are placed **ABOVE** 800mm on your pallet and on the left-hand side of the pallet. This will ensure that any barcodes on the 3PL or transport labels are not accidently scanned, and your pallets will be inducted first time.

4. How good are your internal review processes?

One proven way to make sure that your pallet labelling process runs smoothly and correctly is with internal review processes.

Create a checklist to ensure that your internal processes are robust enough to catch the potential issues before your products leave the warehouse. GS1 and your retailers have these checklists available.

Not sure how good your processes are? Answer these questions:

1. What process is in place to validate that the correct SSCC matches the correct Carton GTIN?

You might have a manual or automated SSCC check process. An ideal manual process would be using a wireless hand scanner connected to a Package Code Management software like iDSnet to scan the Carton GTIN followed by the SSCC to manually confirm. An automated process would use an inline scanner to confirm the Carton GTIN to SSCC Pallet before the stretch wrapping station.

2. How robust are your QC processes?

Put manual checks in place for print quality and housekeeping. This is especially important for manual printing. For example, a Label Printer Applicator (LPA) setup should have inline validation scanners.

3. What's your Quality Control process for transport and 3PL providers?

The same standards should be communicated to third party providers. Find out what label application and quality control process they use, whether they are scanning the label prior to despatching goods, and if they have a printer cleaning and maintenance process. If you are putting multiple labels on the pallet, make sure you don't have them applied in the 400-800mm ZONE as specified above.

4. How do you validate that the Carton GTIN scans and is the correct GTIN?

If the GTIN on the carton is different from the GTIN on the label, the incorrect goods will be receipted, and inventory will be incorrectly updated.

5. What process is in place to validate that the Carton GTIN scans and it is the correct Carton GTIN?

Inline validation ensures the barcodes are readable for both pre-printed labels and print and apply. We recommend inline scanners over manual checks.

Create fully compliant SSCC labels every time

There are lots of resources to help you get your SSCC labels right every time, starting with our team at Matthews.

If you need help with your SSCC pallet labelling, contact us for a pallet labelling audit. We'll help you work out the best solution to ensure your pallet labels are fully compliant and will scan every time. Get in touch today.

Further Research

- Check out our new **Barcode Learning Centre** to study up on popular barcode formats. We've distilled over 40 years' worth of industry expertise and specialist coding knowledge into this new online tool. All the "must knows" about each type of barcode or label type in a single easy to understand format and location.

- Join over 1,200 Australian manufacturers who **follow Matthews on LinkedIn** to stay up to date with the latest coding, marking, inpection and food traceability topics

  https://www.linkedin.com/company/matthews-australasia/

- Read our **Intelligent Identification blog.** With around 100,000 views annually our blog has become a favourite source of online learning for many Australian manufacturing specialists

  https://blog.matthews.com.au/

- Hear what industry colleagues say about Matthews and the various coding, inspection and software technologies we supply at our **Case Study library.** You can now even filter the library by technology type, region and customer industry to make it easy to find customers with applications similar to your own.

  https://www.matthews.com.au/case-studies

- Ready to begin investigating coding & marking technologies to suit your application? We've made this step easy with a new online **Technology Selector** tool. Simply fill in details relating to your application (ie; substrate material, dimensions and code types) and the tool will output a recommended technology to suit.

  https://www.matthews.com.au/technology-selector

About Matthews Australasia

Matthews Australasia, a family business, is Australia's leading provider of intelligent product identification and product-traceability solutions, offering inkjet, thermal transfer, laser, label applicators, label print and apply systems, RFID, barcode-scanning solutions and machine vision inspection. All these solutions can be integrated with Australia's first identification networking and reporting software, iDSnet, winner of 2011 APPMA Design Award.

Solutions-focused, Matthews helps customers with business efficiencies and cost savings by providing production intelligence and increased automation.

Matthews' unmatched solution capability is backed by 24x7 technical support and customer service to support all installations across the country to give you peace of mind. Streamlining ensures less downtime for customers and Matthews' first-time x rate is 97%.

No matter what your coding, labelling or data capture application, Matthews is the only company in Australia that can provide you with a complete range of end-to- end intelligent identification solutions.

To find out more about how Matthews can be of service to you, call **1300 263 464,** visit **www.matthews.com.au** or email **info@matthews.com.au.**