# 2D & QR Barcoding

Whether it's QR codes or Datamatrix codes, Matthews has a solution to apply two-dimensional embedded codes to your products. With flexible, advanced technology, our 2D coding solutions make it easy to take advantage of the latest codes for your business.

The dynamic data embedded in 2D barcodes allow for greater traceability and an increase in food safety for businesses, retailers and customers.

What is a 2D Barcode?

#### 2D data embedded codes are simply barcodes that can contain more embedded data than a regular 1D barcode.

They differ from traditional linear barcodes due to the design – 2D codes are square "checkerboards" – and the amount of information they hold – 2D codes hold significantly more than linear barcodes.

2D barcodes are a two-dimensional barcode used on packaging that enables multiple data elements, such as best before, batch number and grower information, to be embedded into the code and scanned at point-of-sale.





#### **QR Codes**

QR codes are two-dimensional computer-generated images. Today they are used by brands to communicate with consumers, for example, in competitions and promotions. The consumer simply aims their smart device at the QR code, and the relevant application deciphers the code and takes action e.g. connecting to a webpage.

## Types of 2D codes



Datamatrix

Codes that are compact two-dimensional barcode symbols, made up of square modules. They are read by 2D imaging scanners or vision systems. Datamatrix is popular for marking small items such as fresh produce, however the format is not designed to be scanned by end consumers.



#### **GS1** Datamatrix

This code utilises the structure of a datamatrix however, it is embedded with application identifiers (AI's). These AI's are used when scanning codes to utilise a global standard to ensure the required data is embedded. The types of AI's generally used are best before and/or batch codes, weights and pricing.

# Benefits of 2D Codes



# Top 6 tips when upgrading to data embedded codes



#### Know the type of 2D code you need to generate

There are one of three 2D codes you might need to generate. A Datamatrix, which is a compact 2D symbol that can hold many alphanumeric characters. A GS1-Datamatrix code is like a DataMatrix however, it contains application identifiers and begins with a Function 1 Symbol Character (FNC1) when scanned. Or a QR code, which is generally utilised to direct consumers to a website can be recognised by its finder pattern (three squares).



#### Know your relevant identifiers

Look at 2D barcoding standards and learn about identifiers relating to your industry and product range. For example, a Use By identifier (17) is different to a Best Before identifier (15) and this has impacts

at a store level in terms of your product saleability. These identifiers are not new

and are commonly used across the range of GS1 barcode types.



#### Be careful with code magnification

For Woolworths 2D codes, magnification is required to be between 0.625 – 0.9mm, which is also the most efficient decoding method for scanners. This is critical to get right as it can affect the scanability of your product.



#### Ensure point-of-sale scanability

Ensure your validation scanners are fit for purpose. Consider investing in inline verification/code presence systems with inbuilt grading tools.



### Substrate considerations

Packaging substrates can adversely affect the reliability of how your 2D code scans. Aspects to keep in mind are; Gloss level, contrast level (white is optimal, substrate surface - each substrate behaves differently and needs to be tested. How is your print affected by the surface? le; how well does it stick, does it smudge etc.



### Printer technology

The two most common printing technologies for 2D are direct thermal and thermal transfer. Each has its advantages and disadvantages to consider before selecting.

The technology that bests suits this printing is Thermal Transfer Overprinters and Label Printer Applicators.

## Areas We Service

We're proud to supply premium 2D and QR barcode Australia wide. Our innovative products and solutions are available across Melbourne, Canberra, Sydney, Brisbane, Darwin, Perth, Adelaide, Hobart and everywhere in between.







Get in touch with our team

1300 263 464 www.matthews.com.au