Re-turn

Technical specification & labelling manual

For PET Plastic and Metal Containers
in the Irish Deposit Return System

DRSI CLG
(Trading as Re-turn)

Version 2.0 January 2023

1 | Introduction

This document describes the requirements for a package to be included in the Re-turn deposit return system (DRS) operated by DRSI CLG in the Republic of Ireland.

The requirements outlined ensure that containers ranging from 150ml to 3 litres in size entering the deposit return system, are designed for high quality recycling. Optimal performance from container return through to collection, sorting and reprocessing back into new plastic or metal products is critical to the operation of the system.

For information on product types and containers that are included in the DRS, please refer to S.I. No. 599 of 2021 – Separate Collection (Deposit Return Scheme) Regulations 2021. You can also visit our website at www.re-turn.ie

DRSI reserves the right to amend this technical specification document as may be required from time to time.

2 | Container Shape

The optimal package shape for RVM acceptance is cylindrical and stable. Containers should not be top heavy as this risks jamming the RVM equipment on return and causing damage.

If a container deviates from this, DRSI will require the container to be tested before it can be accepted in the DRS system.

In order to test your container's stability, place the container on a flat surface. If the upper part of the container touches the surface or balances on the shoulder as shown below it may not be possible to approve. Please contact DRSI for evaluation of your containers.

3 | Container Dimensions

Container dimensions should be within the following ranges for both pack diameter and height: -

Dimension	Minimum	Maximum
Outer Diameter	50 mm	120 mm
Height (with cap on)	100 mm	360 mm

Please note that the height dimension of the container must be a minimum of 1.4 times the diameter.

4 | Material Thickness

Material thickness can cause challenges for Reverse Vending machines and can block and cause parts of the compaction equipment to fail. Material thickness will be evaluated by compression tests and samples will be required for this evaluation.

It must be possible to reduce the volume of a container by a minimum of 60% for PET and 75% for aluminium cans during compaction by RVM equipment.

5 | Barcoding

All individual containers within the deposit return system must contain a barcode in order to ensure that the product can be clearly identified in both Reverse Vending Machines and at DRSI's counting and sorting facility.

According to the ISO 15420 Standard, the barcode must be of sufficient quality to achieve "Grade 1.5", as defined in ISO 15416, when read throughout the life of the package.

In the case of multipacks, each individual container within the multipack will require a barcode to ensure that it can be returned for a refund by your customers and so that all PET bottles and aluminium cans are readable by RVM equipment and counting centres.

You should therefore plan to update multipack container artworks prior to scheme go live in the Republic of Ireland in February 2024.

[1] Please note that PET bottles must have tethered caps in place by 2024 under the requirements of the Single Use Plastics Directive.

5.1 | Barcode Format

The bar code used can be of the type EAN-13, EAN-8, UPC-A or UPC-E.

Beverage containers connected to the deposit return system should be sold or supplied with a new bar code that is unique to the Republic of Ireland (national barcode). National barcodes help to

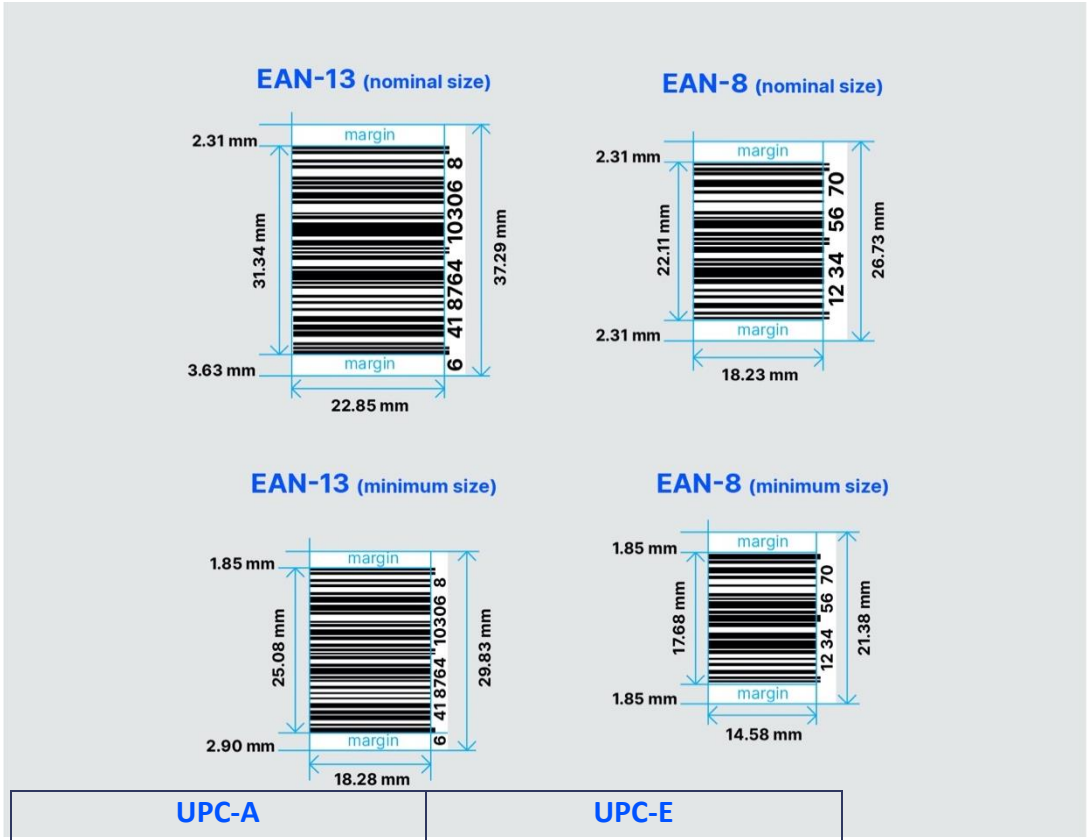
protect the scheme from cross border fraud as barcodes from outside the state are not registered with the scheme.

Producers can retain an existing open / international barcode, subject to the payment of a surcharge, which is designed to cover the fraud risk.

The nominal size of an EAN-13 bar code is 37.29 mm x 22.85 mm and the nominal size of an EAN-8 bar code is 26.73 mm x 18.23 mm. The minimum size of an EAN-13 bar code is 29.83 mm x 18.28 mm and that of an EAN-8 bar code is 21.38 mm x 14.58 mm.
A sufficiently wide clearance area must be left at the beginning and end of the bar code in the background colour.

Barcodes must be placed on the container vertically (in the ladder format) so that the bars are horizontal. Barcodes should be on the container's main label for PET bottles and not on a neck label. Barcodes must be at least 10 mm from the bottom of an aluminium can. Barcodes must never be placed on the top or bottom of a container.

In order for a product to be accepted as part of the return system, it must be compliant with the DRSI Reverse Vending Machine Specification. The beverage manufacturer/importer is responsible for ensuring that the bar code of all product batches released for sale is identifiable by the machines. If in any doubt please contact DRSI to arrange testing.



UPC-A	UPC-E
Width x height (mm)	Width x height (mm)
29.8 x 20.7	21.4 x 17.0

37.3 x 25.9	26.7 x 21.3

5.2 | New Barcode Recommendation

DRSI's key aims at go live are as follows: -

- Ensure a smooth but time limited transition period for Producers and Retailers to ensure that good saleable product left in the supply chain is not wasted.
- Ensure that there is differentiation between product that a producer and retailer has paid a deposit on and previous product that no deposit has been paid on.
- Ensure that financial risks to the scheme are minimised at go live.

It is therefore required that current national barcodes are phased out in preparation for scheme go live on the 1st of February 2024. New barcodes must replace the current national barcodes. Only new national barcodes will be accepted during the product registration process. Containers with current non deposit national barcodes will be considered non-compliant and Re-turn may deem such containers as non-compliant with the producer agreement.

Existing international barcodes will be accommodated subject to a fraud and risk analysis.

5.3 | Products for Export

Products that are produced in Ireland but only sold outside of the Republic of Ireland should not include a barcode used in the deposit system or the deposit system logo.

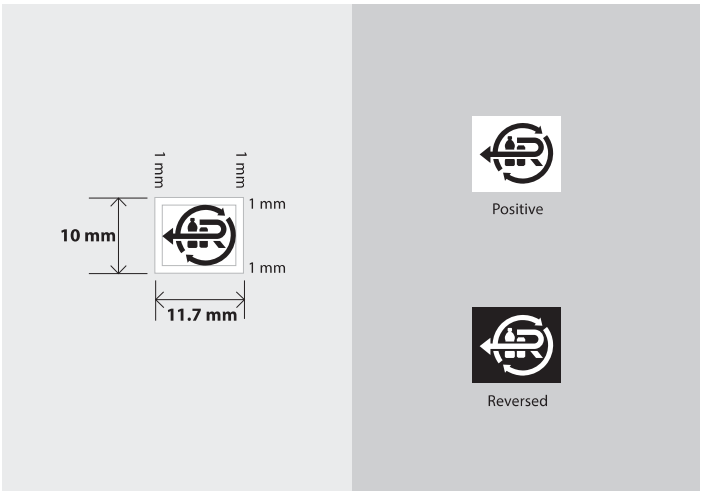
5.4 | Deposit Logo

The DRSI deposit logo is required on all in scope products. This logo helps consumers, retailers and enforcement authorities to identify products that are part of Ireland's deposit return scheme and those that are not.

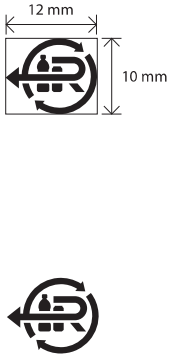
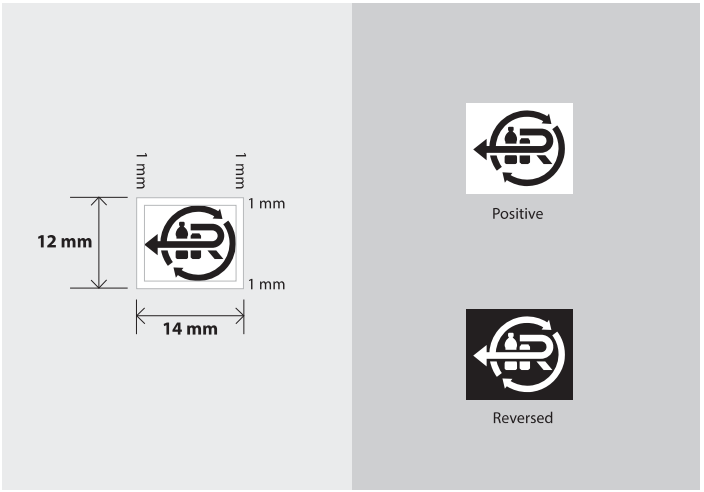
It is particularly important for retailers and return point operators that are accepting back containers manually (i.e. over the counter and not via a Reverse Vending Machine). It is only permitted for use by businesses that are part of the scheme and therefore compliant with the Separate Collection (Deposit Return Scheme) Regulations.

The smallest permissible size for the symbol is shown below. It's colouring can be adapted to the other colours of the container. Black text on a white background is recommended by DRSI. Other combinations must be approved by DRSI in advance.

Minimum logo size

Logo size: 9.7 mm W x 8 mm H	Clearance Zone: 1 mm of space all around the logo
	

Maximum logo size

Logo size: 12 mm W x 10 mm H	Clearance Zone: 1 mm of space all around the logo
	

6 | Material Symbol

Plastic bottles and/or their labels must have symbols indicating the container material. The minimum size of the material symbol is 6 mm x 5 mm. Where the symbol is not present on the material itself e.g. in the case of an aluminium can, it is advised that it be present.

7 | Material Specification

7.1 | Permitted Materials

The Single Use Plastics Directive requires that 90% of plastic beverage bottles are separately collected by 2029.

In addition to this the Directive requires that all PET beverage bottles contain at least 25% recycled content by 2025 increasing to 30% by 2030 for plastic beverage bottles.

This will require producers to place the best possible quality PET material on the Irish market in order to ensure that it is suitable for bottle to bottle recycling for PET.

Please refer to table 1 below for acceptable materials and those that producers should now commence phasing out with a view to completing this process ideally by the end of 2024 as this will inform fee modulation.

Component	Accepted	To be Phased Out
Bottle material	PET	PLA, PVC, PS, PET-G, PEN, PEF
Colour	Clear and transparent coloured PET	Metallic colours, mineral additives, Titanium dioxide and carbon black.
Barrier	Monolayer	Multilayer*
Closure	PE, PP	Metal (unless fully removed e.g. crown cap)
Closure Liner	PE, EVA, TPE	
Label / Sleeve*	OPP, PP, PE, Paper, PET	PVC, Metal foil, OPS, PS, PLA
Inks	As per EuPIA guideline	Substances on EuPIA exclusion list.
Label Adhesives	Water or Alkali Soluble Hotmelt usage will be subject to testing	Non-Recyclable Hotmelt
Can	Alumimium & Steel	Mixed materials (plastic and aluminium or plastic and steel)
Labels / Sleeves	Most Plastic materials accepted	PVC

For labels / sleeves it is preferred that these are partial and cover no more than 50% of the container's surface area.

Please note that barriers and UV blockers must be approved by DRSI prior to use. Where the container contains a barrier, this must be clearly stated in the material specification.

7.2 | Recycled Content

Producers must report the % of recycled content in PET bottles to DRSI in order to show compliance with the Single Use Plastics Directive targets. Producers may be required to provide certification of recycled content when registering new products within the scheme.

Recycled plastic used in PET bottles must be produced using European Food Safety Authority approved recycling processes and comply with Regulation No. 282/2008 on recycled plastic materials and articles intended to come into contact with foods.

8 | Labelling of Containers with Self Adhesive Labels

Self adhesive labels are permitted to fulfil labelling requirements however they should be utilised by producers as a contingency measure only where direct printing on to the bottle label or can is not practical for the Irish market. Their use is subject to prior approval by DRSI.

DRSI will supply the producer with these labels where approved and the labelling must meet the criteria for barcoding and deposit logo described above.

Under no circumstances is it permitted to meet this requirement through another third party label supplier.

9 | Container Changes

All changes to products already included in the deposit return system must be approved by DRSI before they can be introduced. Significant changes to shape and size may mean that the container can no longer be accepted by the reverse vending machines and will require a new approval.

New sample packages and material specifications must therefore be submitted to DRSI for approval.

10 | New Product Registration

The registration of a new product shall be submitted to DRSI for approval no later than six weeks before the planned go live. Products are registered in the producer web portal which will be available at www.re-turn.ie.

When registering plastic bottles, specifications describing the material compositions of the bottle material, the label, the adhesive and the cap shall be included. These specifications are usually available from the packaging manufacturer.

Once a product has been registered, ten samples will be sent to DRSI Registered Reverse Vending Machine Manufacturers to ensure that they are compatible with approved Reverse Vending Machine and Counting and Sorting Centre equipment.

Samples should be sent to the following address: -

Attn: Product Registration

DRSI CLG,

Red Cow Interchange Estate

1 Ballymount Road

Clondalkin, Dublin

D22 HW67

The packaging is then checked against the requirements set out in this document.
The shape of the container and the quality and readability of the barcode are tested in a reverse vending machine as well as in ISO-certified control equipment.

The material thickness is measured in compaction tests. If further evaluation is required, the container is sent to automation suppliers or material recovery facilities in consultation with the RVM supplier.

Following approval, the barcode is registered in DRSI's product database.
This Masterfile will be updated on a weekly basis.