

Accelerated Capital Allowances Eligibility Criteria

Category: Refrigeration and Cooling Systems

***Technology:* Refrigerated Display Cabinet equipment**

Refrigerated Display Cabinet equipment is defined as equipment that is designed to store and display chilled and/or frozen foodstuffs.

Refrigerated Display Cabinet equipment is considered to include the following:

Refrigerated Display Cabinets

Refrigerated display cabinets are used to maintain foodstuffs and drinks at chilled and frozen temperatures. There are many different designs of refrigerated display cabinets, but all enable the customer to view the foodstuff stored in the cabinet, either through an opening in the cabinet, or through a transparent door or lid. The two types of cabinets included are:

- 'Plug in' refrigerated display cabinets with integral refrigeration systems (i.e. incorporating a compressor and condensing unit).
- 'Remote' refrigerated display cabinets that are designed to work with a non-integral refrigeration system (i.e. where the compressor and condenser, or all or parts of the refrigeration system are located at a different location from the cabinet).

Covers for Refrigerated Display Cabinets

Covers for Refrigerated Display Cabinets are rigid barriers that can be used to reduce the infiltration of ambient air and heat flow into refrigerated display cabinets, thereby reducing the energy consumption of the cabinet. The five types of covers included are:

1. **Strip curtains** that consist of transparent, flexible strips hung adjacent to each other, and fastened at both ends to neighbouring strips, in a manner that allows temporary openings to be made in the curtain for the purpose of removing items from the cabinet.
2. **Night blinds** that consist of a flexible fabric mounted on a roller mechanism that enables the blind to be deployed across the display window of the cabinet when the retail outlet is closed. The blind may also incorporate a motorised control system.
3. **Transparent chest freezer covers** (or 'bubble lids') that consist of a rigid transparent material that fits across the display window of the cabinet, and incorporates access holes that enable items to be removed from the cabinet without removing the cover.
4. **Transparent sliding doors** that consist of doors with a heat reflective coating, mounted in a mechanism (that is designed to be installed in the window of the cabinet) that enables the doors to be opened when items need to be removed from the cabinet.
5. **Transparent hinged doors** that consist of doors with a heat reflective coating, mounted in a mechanism (that is designed to be installed in the window of the cabinet) that enables the doors to be opened when items need to be removed from the cabinet.

Eligibility criteria

To be included on the ACA Specified List, the specific Refrigerated Display Cabinet equipment must meet *all* the relevant requirements set out below.

General eligibility criteria

(applicable to all Refrigerated Display Cabinet equipment)

No.	Condition
1	All equipment and/or components must be CE-marked as required by the specific EU directive(s).

Refrigerated Display Cabinets – specific eligibility criteria

(to be met in addition to the general eligibility criteria)

No.	Condition
2	Be designed to display chilled and/or frozen foodstuffs, while maintaining them within prescribed temperature limits
3	Conform to one of the temperature classifications in <i>Table 1</i> (see below) when tested to IS EN ISO 23953-2:2005 in climate class III (25°C, 60% RH)
4	Have an Energy Efficiency Index (EEI) that is less than, or equal to, the threshold shown in <i>Table 2</i> (see below) for the relevant temperature class and type of cabinet
5	Be classified in accordance with the precise 5-digit classification system set out in Annex A of IS EN ISO 23953-1:2005

Covers for Refrigerated Display Cabinets – specific eligibility criteria

(to be met in addition to the general eligibility criteria)

No.	Condition
6	Products must: <ul style="list-style-type: none"> • Provide a rigid barrier that can be used to reduce the infiltration of ambient air and heat flow through the open display window of a refrigerated display cabinet • Be designed to fit one or more specific types or models of refrigerated display cabinet in a manner that ensures that, when fitted, there is no air gap around the edges of the product's rigid barriers

Table 1: Classification according to temperature

Class	Highest temperature θ_{ah} of warmest M-package equal to or lower than:	Lowest temperature θ_b of coldest M-package equal to or higher than:	Lowest temperature θ_{al} of warmest M-package equal to or lower than:
L1	-15°C	-	-18°C
L3	-12°C	-	-15°C
M0*	+4°C	-1°C	-
M1	+5°C	-1°C	-
M2	+7°C	-1°C	-
H1	+10°C	+1°C	-
H2	+10°C	-1°C	-

* Note: All classes are as described in IS EN ISO 23953-2:2005, except M0, which is based on recommendations by the British Refrigeration Association.

Table 2: Performance thresholds for refrigerated display cabinets

Classification according to temperature	EEl performance threshold (kWh/day/m²)	
	<i>Integral type</i>	<i>Remote type</i>
L1	21.00	23.50
L3	n/a	21.00
M0	12.50	11.75
M1	12.20	11.45
M2	11.60	10.85
H1	n/a	8.00
H2	10.20	9.20

Where the Energy Efficiency Index (EEI) is defined as the ratio of the product's Total Energy Consumption (TEC) to Total Display Area (TDA), i.e. $EEI = TEC/TDA$, and:

- TEC is calculated according to IS EN ISO 23953-2:2005 section 5.3.6.3.4
- TDA is calculated according to IS EN ISO 23953-2:2005 Annex A

----- End of ACA eligibility criteria -----

- Please see next section for guidance on:
 - 1. Technical details required in product submission**
 - 2. Supporting documentation required**

Guidance on product details and supporting documentation

NOTE: The following information is not part of the official criteria document published within the relevant Statutory Instrument. It has been added here for guidance purposes only in order to help you to provide (a) product details and (b) the required supporting documentation.

All information contained in this guidance document is subject to change without notice.

Technical information required in product submission

The following are the specific technical values required as part of the product submission for this technology:

Refrigeration and Cooling product type

As part of the product submission, you must first select which type of Refrigeration and Cooling RDC your product is. Only one type can be chosen per product. The product must be one of the following types.

- 'Plug in' refrigerated display cabinets
- 'Remote' refrigerated display cabinets
- Strip curtains
- Nightblinds
- Transparent Chest Freezer Covers
- Transparent Sliding Doors
- Transparent Hinged Doors

Energy Efficiency Index (EEI) – kWh/day/m²

- Required for Plug in refrigerated display cabinets only

The EEI for the product in kWh/day/m² is required as a value for the product submission for plug-in refrigerated display cabinets. It must be entered as number only, without units. There should be no spaces or full stops after the number. The figure must not exceed the threshold requirements for EEI values in *Table 2* of the main criteria document.

Supporting documentation required

Described below is the list of documents that are accepted as proof of compliance for the specific Refrigeration and Cooling RDC condition.

Note: This information will only be requested AFTER you submit your product's basic details online.

Important Notes to Product Providers

Please ensure that you read the "Important Notes for Product Providers" section at the end of this document prior to submitting documentation.

General conditions

(applicable to all Refrigerated Display Cabinets equipment)

No.	Condition	Supporting Documentation Requirement
1	All equipment and/or components must be CE-marked as required by the specific EU directive(s).	<p>Official and published manufacturer's technical data sheet or brochure that demonstrates CE marking compliance</p> <p>OR</p> <p>A copy of an official signed declaration on headed paper which confirms CE marking compliance.</p> <p><i>Official declarations should explicitly state the product for which CE marking is being confirmed (i.e. do not provide a letter simply stating general compliance with the relevant ACA condition).</i></p> <p><i>Where a document is used to demonstrate conformance for a number of products or range of products, it should clearly specify each individual product covered by that document.</i></p>

Refrigerated Display Cabinets – specific eligibility criteria

(to be met in addition to the general eligibility criteria)

No.	Condition	Supporting Documentation Requirement
2	Be designed to display chilled and/or frozen foodstuffs, while maintaining them within prescribed temperature limits	Official and published manufacturer's technical data sheet, or brochure, that demonstrates compliance with the requirements of the condition
3	Conform to one of the temperature classifications in Table 1 when tested to IS EN ISO 23953-2:2005 in climate class III (25°C, 60% RH)	<p>A full and complete test report must be submitted in compliance with IS EN ISO 23953-2.</p> <p><i>Required test procedures</i></p> <p>All cabinets must be tested in a test room conforming to IS EN ISO 23953-2.</p> <p>During testing the cabinet shall comply with the conditions defined in IS EN ISO 23953-2 with the following specifications:</p> <ul style="list-style-type: none"> • Section 5.3.2.7 – Lighting and night covers – section (b). Test data must not include tests with night blinds. • Section 5.3.6 – Heat extraction rate measurement when condensing unit is remote from cabinet shall be calculated according to section 5.3.6.3.1, section (b) and 5.3.6.3.2 method \varnothing_{run75} <p>The test report must be prepared in accordance with specification in IS EN ISO 23953-2.</p> <p>If the test report has not been prepared by an independent body, then evidence must be provided that a representative sample of product test data has been independently verified or cross-checked.</p>
4	Have an Energy Efficiency Index (EEI) that is less than, or equal to, the threshold shown in Table 2 for the relevant temperature class and type of cabinet	A full and complete test report must be submitted in compliance with IS EN ISO 23953-2. Test reports should be of the format described in the 'Important Notes to Product Providers' section of this document.

No.	Condition	Supporting Documentation Requirement
5	Be classified in accordance with the precise 5-digit classification system set out in Annex A of IS EN ISO 23953-1:2005	Official and published manufacturer's technical data sheet, or brochure, that demonstrates compliance with the requirements of the condition. The documentation should confirm the specific 5-digit classification of the product according to IS EN ISO 23953-2

Curtains, Blinds, Doors and Covers for Refrigerated Display Cabinets – specific eligibility criteria

(to be met in addition to the general eligibility criteria)

No.	Condition	Supporting Documentation Requirement
6	Products must: <ul style="list-style-type: none"> • Provide a rigid barrier that can be used to reduce the infiltration of ambient air and heat flow through the open display window of a refrigerated display cabinet • Be designed to fit one or more specific types or models of refrigerated display cabinet in a manner that ensures that, when fitted, there is no air gap around the edges of the product's rigid barriers 	Official and published manufacturer's technical data sheet, or brochure, that demonstrates compliance with the requirements of the condition

Important notes for product providers

General

There should be a clear link between the product submitted and all supporting documentation. This will typically take the form of a *product code* or *product name* that can be cross-referenced between the submitted product and the relevant supporting documentation.

If product codes/names have been changed since publication of the supporting documentation, then you must provide official evidence of this with the supporting documentation supplied.

If there is any deviation from these requirements, the supporting documentation will not be considered adequate for the purposes of demonstrating compliance with the criteria conditions. This will in turn delay the submission and/or result in the product not being considered eligible.

Where the ACA criteria or help documentation makes reference to compliance with appropriate rather than specific standards, the onus is on the product provider to ensure that the supporting documentation supplied references recognised standards that apply to the submitted product, i.e. the product must be covered under the scope of a recognised standard.

If it is subsequently found that any product submitted does not meet the performance or specification criteria, it will cease to be considered eligible for the ACA.

Note: When supplying the supporting documentation through the online process, you must ensure, when demonstrating compliance with the relevant condition, that the correct page number(s) of the document is referenced. When referencing more than one page number, add an explanatory note.

Test report

A test report must include an outline of the complete test, including:

- √ Introduction
- √ Details on test conditions
- √ The specific model details of the product tested
- √ The steps taken in the test
- √ The results
- √ Graphical representations
- √ Conclusion

All documents should be on headed paper and the document should be officially signed off. **All documentation must be in English**, or include adequate translation.

Certification

Where certificates are provided, all tests must be carried out by an organisation that is accredited by a national accreditation body, recognised via the European Cooperation for Accreditation (preferred) or the International Accreditation Forum. **All documentation must be in English**, or include adequate translation.

Scientific equivalence

Some ACA criteria conditions allow for scientifically equivalent tests and/or standards to be used.

If a product has not been designed, manufactured or tested to the specific standard named, then documentation relating to an equivalent internationally recognised standard may be used, where the phrase '*or scientific equivalent*' is included in the ACA condition or help documentation.

In such applications, the onus is on the product submitter to demonstrate satisfactory equivalence of the standards. Submissions which reference such supporting documentation may take longer to process. If the product provider does not provide satisfactory evidence of equivalence, then the product will not be considered eligible for the ACA. **All documentation must be in English**, or include adequate translation.

Note: Where specific standards are cited in a condition or in the ACA help documentation, then documentation demonstrating that the relevant products have been designed, manufactured or tested to these specific standards is preferred. Scientific equivalence is considered the exception rather than the norm.

Representative testing

Where test information is required for a range of technically similar products (e.g. configurations of one base product), then – in exceptional instances – a form of representative testing may be used once *agreed in advance* with SEAI.

Such testing is where only representative products are tested from a technically similar group or range of products. Representative testing may form an acceptable basis for supporting documentation if:

- A clear correlation can be demonstrated between the tested product and a technically similar non-tested product
- and*
- Such a correlation clearly demonstrates the compliance of the non-tested product

Note: Where representative testing is used for a group or range of products, if the tested or representative product is removed from the list of eligible products then all related products are also removed.