



ISO/TMB "Technical Management Board"
Secretariat: **ISO**
Secretary: **Rossi Marco Mr**



Form and Annex - IWA on Crystal

Document type	Related content	Document date	Expected action
General / Other		2022-11-01	



PROPOSAL FOR AN INTERNATIONAL WORKSHOP AGREEMENT

A proposal for an International Workshop Agreement (IWA) shall be submitted to the secretariat of the Technical Management Board at ISO/CS (tmb@iso.org). Proposals will be referred to the ISO Technical Management Board for approval (4-week ballot).

Once the proposal for the IWA is approved by the TMB, the proposer will be requested to prepare an announcement/ invitation to the workshop, which will be circulated to the ISO members by ISO/CS. Please note that the announcement must be made at least 90 days in advance of the agreed date to allow potential attendees adequate time to plan on attending the workshop (Annex SI.3).

See the [ISO Supplement Annex SI](#) for full details of the Procedure for the development of IWAs.

Proposer

A proposal to hold an ISO workshop for the purpose of developing one or more IWAs on a particular subject may come from any source, including ISO member bodies, liaison organizations, corporate bodies etc. An organization that is not an ISO member body or liaison organization, or is not international in scope, shall inform the ISO member body in its country of its intent to submit such a proposal.

European Domestic Glass (EDG) together with AFNOR (Association française de normalisation-French standardization body)

The European Domestic Glass Association, set up in 1966, groups together the domestic glass industry's collaborative activity on European legislative issues, managed under a single membership structure. The association represents the common interests of European domestic glass producers in supporting and promoting the use and re-use of domestic glass in a socially and environmentally responsible and sustainable manner.

Contact details of proposer

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Title of the proposed IWA

Crystal, crystal glass and lead crystal glass for tableware, containers, giftware, jewellery, home decor, decorative components, furniture and luminaries - Specifications and test methods

Purpose and justification

Context

Domestic glass is largely used for consumer goods, such as tableware, containers (e.g. bottles, decanters, perfume jars), giftware, jewellery, home decor, decorative components (e.g. for the jewellery, textile, lighting), furniture and luminaries. Other industrial or technical applications, such as glass in building, medicine and laboratories are not considered as domestic glass.

There has been recent significant technical progress and market evolution with regard to certain crystal glass types for domestic use. A huge market shift occurred from lead crystal glass to innovative crystal glass, driven by progress in industrial processes. Three decades of research also led to the development of new formulas without intentionally added lead oxide:

1. manufacturers do not use lead oxides anymore among the starting raw materials to obtain crystal glass,
2. it is now possible to obtain a new glass, 'crystal', the characteristics of which are far superior to those of crystal glass, in terms of refractive index and density, and are very close to those of lead crystal glass.

See in annex the main characteristics of lead crystal glass, crystal glass and 'crystal'.

Thanks to these innovations an entirely new product ('crystal') is now being put on the market.

What is at stake is an urgent need to ensure that consumers are not confused or misled by these innovations, hence one purpose of this proposal, that is to provide a timely and clear definition of 'crystal' on the market.

Purpose

The purpose of the IWA is to establish specifications for 'crystal', crystal glass and lead crystal glass at international level. It is expected that these specifications would address the three categories of material, in terms of density, refractive index, and composition, including lead content, addressing lead contamination. The IWA is also expected to refer to existing and relevant test methods and possibly identify complementary tests if necessary.

Justification

Clear characterizations of 'crystal', crystal glass and lead crystal glass would be beneficial to recognition of product specifications and to commercial exchanges; consistently at the global level. With regard to 'crystal' and crystal glass, a lead content criterion will address potential lead contamination, aiming at reinforcing their recognition and thereby facilitating their marketing, use, and recyclability.

There is currently no internationally standardized criterion matching the new improved formulas with respect to elimination of lead oxides from the starting raw materials, a major concern for the market.

This approach is similar to the one already chosen in IWA 8:2009 that became ISO 24117:2020 "Tableware, giftware, jewellery and luminaries, made of glass — Glass clarity — Classification and test method" including an iron content criterion in relation to glass clarity.

There is also no recognized definition for 'crystal', which therefore, despite its specifications of high quality, would currently have no choice but to be assimilated to mainstream glass in terms of marketing and customs.

It is therefore highly needed to rapidly agree on relevant definitions and test methods, notably as 'crystal' is starting to be put on the market.

After careful review of existing ISO technical bodies, we conclude there is currently no technical committee that could host the development of an ISO deliverable for the purpose of developing

the specification of the three categories of material. However, there are already existing test methods that can be referred to or adapted.

Contribution to Sustainable Development Goals (SDGs):

A specification of different crystal glass types and, in particular, a lead content criterion for those crystal glass types, would contribute to Goal 9 “Industries, Innovation and infrastructures” by finding lasting solutions to both economic and environmental challenges, such as the reduction of hazardous starting raw materials while ensuring a solid and durable product over time.

Meetings

There will be no participation fees to participate in the workshop; however, the participants will be expected to cover their own expenses.

Meetings will be held in presence at AFNOR premises (11 rue Francis de Pressensé, 93571 La Plaine Saint-Denis, France). Connection via Zoom will be provided for those who would be unable to attend.

Meetings will be chaired by Paola Di Discordia (EDG), the secretariat will be held by Gwenola Hardouin (AFNOR).

The workshop language will be English.

Action plan

Upon TMB approval,

- 1) Preparatory work: EDG and AFNOR will elaborate an initial draft proposal of IWA.
- 2) Initial Consultation: A first draft proposal will be circulated among participants to seek their comments, by correspondence. Their feedback will then be compiled in preparation of a 1st workshop meeting, which will appropriately address all comments, concerns and objections.
- 3) 1st workshop meeting, hosted at AFNOR premises, La Plaine Saint Denis, France.

Participants are expected to

- comment successive versions of the draft,
 - consider and discuss all comments received,
 - possibly agree on a final version of the draft for publication as an IWA.
- 4) Optional: 2nd workshop meeting, as necessary.
 - 5) Finalization and submission of the draft IWA. EDG and AFNOR to update the final draft IWA taking into account all changes agreed upon, and to circulate this final version and deliver it to ISO Central Secretariat for publication.

Timetable

Step	Earliest estimated dates
TMB Approval → Notice of the kick-off meeting	January 2023
Preparatory work	February-March 2023
Initial consultation of workshop members	April 2023
1 st workshop meeting	May 2023
Optional 2 nd workshop meeting	June 2023
Finalization and Submission of Agreement	July 2023

<p>Does the proposed IWA relate to or impact on any existing work in ISO committees?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Please list any relevant documents and/or ISO committees</p> <p>This IWA targets crystal glass materials used in a wide variety of applications in consumer goods, including but not necessarily items for food contact. Such work does not fall in the scope of ISO/TC 63 “Glass containers” or ISO/TC 166 “Ceramic ware, glassware and glass ceramic ware in contact with food”. However, these technical committees have developed test methods, for example to assess lead and cadmium release limit values, which may be referred to by in the IWA. No overlap with existing standards is thus foreseen.</p> <p>Many sectors include crystal glass as a material, e.g. decorative items, furniture and home decor but would not have been a proper setting for this work as it addresses the material rather than specific products.</p> <p>The IWA is therefore not expected to duplicate nor to negatively affect any ongoing work within ISO.</p>
<p>Relevant stakeholders (list of organizations that may be interested)</p> <p>The following organizations will be targeted for participation and dissemination of the opportunity to participate, as they are recognized for their expertise on domestic glass and the breadth of their constituency:</p> <p>European Domestic Glass International Crystal Federation</p> <p>As per the ISO Directives, all details will be announced by the workshop secretariat, the ISO Central Secretariat and EDG, inter alia.</p>
<p>Member body willing to act as secretariat</p> <p>AFNOR</p>
<p>Number of meetings to be held (if more than one is envisaged) and proposed dates</p> <p>2 meetings (expected in May 2023, and June 2023 if necessary)</p>
<p>Annexes are included with this proposal (give details)</p> <p>An annex is attached with an outline of the IWA.</p>

ANNEX

REQUEST FOR AN IWA ON CRYSTAL, CRYSTAL GLASS AND LEAD CRYSTAL GLASS FOR TABLEWARE, CONTAINERS, GIFTWARE, JEWELLERY, HOME DECOR, DECORATIVE COMPONENTS, FURNITURE AND LUMINARIES - SPECIFICATIONS AND TEST METHODS

OUTLINE

1. SCOPE

This document provides specifications and test methods for crystal glass types: crystal, crystal glass and lead crystal glass (composition, density and refractive index and Pb content).

It excludes full lead crystal.

It will also provide a definition in relation to non-intentionally added lead oxides, with regard to crystal and crystal glass.

2. SPECIFICATIONS

- Definition of certain crystal glass types :
 - crystal,
 - crystal glass
 - lead crystal glass
- Definition of non intentionally added lead oxides, in relation to crystal and crystal glass
- Technical characteristics

Description crystal glass types	Characteristics			
	Metal oxides	Density	Refractive index	Remarks
Crystal	Σ (ZnO, BaO, K ₂ O, SrO, Al ₂ O ₃ , TiO ₂ , ZrO ₂ , Sb ₂ O ₃) \geq 24%	≥ 2.67	≥ 1.535	No intentional addition of lead oxides. Max permissible lead content
Lead Crystal glass	PbO \geq 24%	≥ 2.67	≥ 1.545	N/A

Crystal glass	Σ (ZnO, BaO, K ₂ O, SrO, Al ₂ O ₃ , TiO ₂ , ZrO ₂ , Sb ₂ O ₃) ≥10%	≥2.45	≥1.520	No intentional addition of lead oxides. Max permissible lead content
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3. TEST METHODS

Development or reference to test methods

Chemical analysis

Tests on physical properties

Density

Refraction index