South West Heritage Trust

Chew Valley Hoard

Employer's Requirements for Prototype Case Design

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1. General Requirements

The display case shall be designed, manufactured and installed in accordance with:
- BS EN 15599-1:2014 Conservation of Cultural Heritage - Guidelines for design of showcases, &
- Relevant conservation, security and environmental control standards applicable to museum-grade display systems.

The design must prioritise long-term object preservation and security.

The case shall be designed to withstand:
- Self weight of glazing and doors,
- Operational loads from opening / closing doors,
- Crowd interaction (leaning, incidental contact).

No deflection shall compromise seals or security.

2. Materials

All materials used within the case must be:
- Non-off-gassing (inert),
- Museum-grade & appropriate for gallery conditions,
- Durable,
- Non-reflective.

Colour / finish to be confirmed by design team.

Case glazing must be:
- Non-reflective laminated anti-bandit glass,
- Of optical clarity suitable for viewing from both sides,
- Anti-reflective coating to minimise glare under gallery lighting conditions.

3. Security

The display case shall include:
- Abloy locking system,
- Tamper-resistant construction,
- Laminated security glazing meeting anti-bandit requirements.

4. Access and Glazing System

Front glass panels shall be designed as openable access doors.

Door construction:
- Formed from the main laminated glass panels (frameless glass doors),
- Doors to be silicone sealed in position and subsequently cut free to create minimal visual joints,
- No visible framing to door edges.

Ironmongery:
- Concealed hinges located within the top and bottom of the case frame,
- Hinges to be fully hidden from external view.
- Concealed locking system, integrated with the case structure.

Doors shall open safely without risk to displayed objects, be operable by trained staff without specialist tools and include provision for controlled opening angle (stops / restraints if required).

5. Maintenance

The case shall allow:
- Safe access for cleaning (internal and external),
- Replacement / reconditioning of silica gel,
- Inspection of seals and locking systems.

Maintenance operations shall not compromised airtightness or damage finishes.

6. Environmental Control

The case shall be:
- Airtight, with no more than 0.1 Air Changes / day,
- Designed to maintain stable internal conditions.

The case shall be tested and certified for airtightness performance, with methodology to be submitted for approval.

Passive environmental control to include:
- Silica gel compartments / cassettes to control humidity,
- Provision for access for monitoring and maintenance.

7. Lighting

The case shall include integrated lighting:
- Conservation safe, avoiding UV and IR emission,
- Minimising glare and reflections,
- Provide even illumination across coins,
- Avoid casting shadows wherever possible,
- Compatible with environmental control requirements.

8. Internal Display System - Coin Support

Central structural glass support system shall be provided, installed at an angle of 10 degrees:
- Constructed from Perspex (acrylic) or glass,
- Cut circular apertures for individual coin placement,
- Cut layer to be bonded to support layer to form a stable structure.

The system must:
- Securely hold the coins, noting the deformity of some coins and that this must be suitable for all variations,
- Accommodate thermal expansion and differential movement between bonded elements,
- Be visually minimal to avoid distracting from objects.

9. Prototype Requirements

A full-scale prototype (1m x 1m) shall be designed and proposals agreed before being fabricated for assessment and testing prior to final production.
The prototype will be evaluated for:

Lighting Performance:
- Assessing shadowing effects caused by perforated coin supports,
- Uniformity of lighting across displayed objects,

Visibility:
- Clear viewing from both sides of the case,
Verification of effectiveness of non-reflective glass,

Visitor Experience:
- Evaluation of optional frosted treatment for coin support to prevent visibility of visitors on opposite side of the display,

Material Compatibility:
- Testing interaction between glass & Perspex including thermal expansion and long-term stability / bonding integrity.

10. Prototype Use

The prototype shall be fully functional, finished to exhibition standard and suitable for use in the temporary gallery exhibition.

11. Deliverables

- Detailed design drawings for prototype, case and internal display system,
- Airtightness performance test methodology,
- Material specifications and certifications,
- Prototype for review and approval,
- O&M manual including environmental control strategy, silica gel maintenance, cleaning procedures and access instructions,
- As built drawings.

Drawings are to be approved prior to manufacture.