



October 9, 2025

TO LABORATORIES AND MANUFACTURERS PARTICIPATING IN THE SEI/ASTM VERIFICATION PROGRAM FOR BALLISTIC SHIELDS TO ASTM E3347:

The purpose of this Bulletin is to provide clarification on several points related to ballistic shield testing to ASTM E3347.

VIEWPORT WITNESS PANEL

Clarification was requested regarding the witness panel specifications as listed in Table 2 of ASTM E3141/E3141M-24. It is clear that opaque components of the shield shall use .020-inch 2024T3 Aluminum and transparent components of the shield shall use .001-inch aluminum foil. The question arose as to what type of material should be used for the opaque portions connected to the transparent viewport (i.e., frame, bolts, viewport edge, etc.). The standard also states, “or areas intended to be operationally positioned in front of the user’s face.” SEI has determined that any area associated with the viewport (i.e., viewport interface, fasteners that may mount to the viewport, etc.) would use the .001-inch aluminum foil. All others would use the .020-inch 2024T3 Aluminum. Additionally, SEI suggests that the following language be incorporated into the standard: “Translucent or transparent components or area associated with the viewport (i.e. viewport interface, fasteners that may mount the viewport, viewport frame, etc.) intended to be operationally positioned in front of a user’s face.”

VIEWPORT COUPONS

SEI is seeking to clarify the clause below in the ballistic shield test method (ASTM E3141-24) regarding viewport coupons.

4.1.1.2 For a viewport coupon, the distance from the viewport edge to any adjacent shield body edge shall be the minimum distance from the viewport edge, ± 6.0 mm [0.25 in.], to the shield body edge of the shield test items submitted for testing.

It has come to our attention that when applied to viewports which are not rectangular, the measurement identified in 4.1.1.2 and Figure 1 is ambiguous and may result in viewport coupons of odd shapes which do not represent actual shield construction.

As a result, SEI is suggesting that the following language be added to the next standard revision:

4.1.1.2 For a viewport coupon, the minimum horizontal and vertical distances from the viewport edge to the coupon edge shall be the minimum horizontal and vertical distances as measured on an actual shield, as described in 4.1.1.2.1 and 4.1.1.2.2, ± 6.0 mm (0.25 in.).

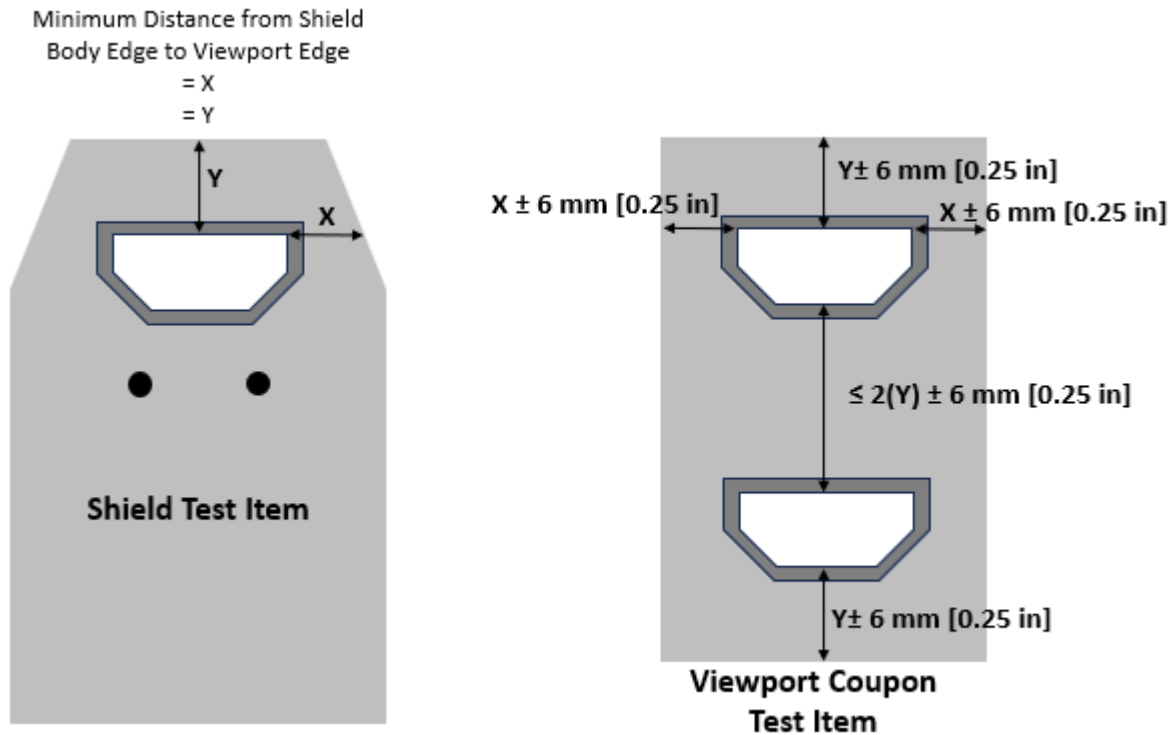
4.1.1.2.1 A measurement, labelled “X” in Figure 1, shall be taken on an actual shield to determine the minimum horizontal distance from the point on the viewport edge nearest the shield’s side edge.

4.1.1.2.2 A measurement, labelled “Y” in Figure 1, shall be taken on the actual shield to determine the minimum vertical distance from the point on the viewport edge nearest the shield’s top edge.

4.1.1.3 The viewport coupon may contain one or more viewports. If the viewport coupon contains multiple viewports, the distance between adjacent viewport edges shall be no more than twice the distance

listed in 4.1.1.2.2. See Fig. 1 for a graphical representation of the distance requirements for viewport coupons.

Figure 1 would also be revised to include “Y” as shown below.



VIEWPORT WEAK POINTS

It came to SEI’s attention that clarification is needed as to what constitutes a weak point and whether it can be applied to the viewport. It is SEI’s position that weak points are not limited to the shield body. In the text of both E3347 and E3141, weak points are identified as applicable to the “test item” which indicates the entire shield. As a result, there is nothing preventing a weak point shot from being associated with the viewport area. This includes angled shots on the viewport frame. Standard practice should include shooting both inward and outward, regardless of frame design.

PRODUCT CONDITIONING

It is SEI’s policy that products be tested without delay after conditioning, in accordance with the standard’s specification. Per E3347: 11.2.3 Following low or high temperature conditioning, ballistic testing on the test items shall be started no sooner than 5 min after removal from conditioning and no later than 10 minutes after removal from conditioning. The goal of testing is to start as close to the 5 minute mark as possible. Testing shall be completed within 30 min of removal from conditioning.

Thank you. Please do not hesitate to contact SEI with any questions or concerns.

Sincerely,

Anna Seiple
Program Director