



Q-SUN Specimen Mounting Guidelines and Available Holders

Q-SUN[®] xenon arc weathering testers can be used to test a variety of specimens. Flat or three-dimensional specimens can be placed directly on trays or mounted using specialty holders in the Q-SUN Xe-1 and Xe-3. The rotating rack of the Xe-2 is perfect for testing textiles. Coatings, plastics, and films are easily accommodated in any Q-SUN tester using standard flat specimen holders. Q-Lab also offers custom specimen holders for unique needs. All of Q-Lab's panel holders are designed to meet the requirements of ASTM G155 and other international standards.

Specimen Mounting Guidelines

Q-SUN chambers can accommodate a variety of specimen types, but three principles should always be considered when mounting specimens:

- 1) The surface of the test specimen should be in the standard specimen plane, which is approximately the following distance from the lamp(s):

Xe-1	Xe-2	Xe-3
250 mm	125 mm	360 mm

This ensures that the specimens receive the correct level of irradiance.

- 2) The specimens and their holders should not cover or shadow the black panel (BP) or insulated black panel/black standard (IBP). This prevents inaccurate temperature readings that can lead to unrealistic or excessive specimen temperatures.

- 3) When using an open back tray in an Xe-1 or Xe-3 (for SAE J2412 or J2527), or whenever using an Xe-2, all spaces not filled with test specimens must be filled. This allows optimal air flow through the test chamber.



Specimen Capacity

Q-SUN testers are highly adaptable. Different sizes of specimens and holders can be accommodated at the same time. See table below for a list of the specimen capacity of the Q-SUN testers with and without using standard holders.



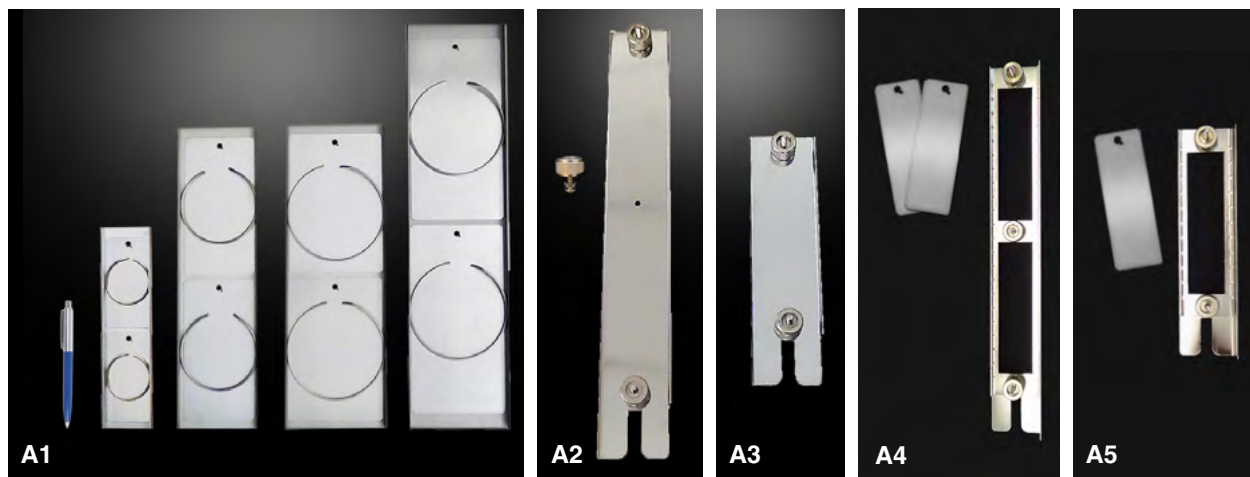
Specimen Size		Specimen Capacity		
inches	mm	Xe-1	Xe-2	Xe-3
2 × 4	50 × 100	17 (15)	–	55 (51)
3 × 6	75 × 150	8	–	22 (20)
4 × 6	100 × 150	5	–	18
4 × 8	100 × 200	4	–	13
1.8 × 5.2	45 × 132	–	31	–

Note: Values in parentheses indicate situations with reduced capacity when using specimen holders. Shaded areas are not applicable combinations.

A. Standard Specimen Holders

Description	Photo	Part Number	Specimen Size	Specimen Exposure Area	Set Of	Available For:		
						Xe-1	Xe-2	Xe-3
Standard Flat Panel Holder <ul style="list-style-type: none"> Each holder assembly holds 2 specimens and includes 2 panels and 2 retaining rings X-10113-K includes 8 holders that hold 2 specimens each, 51×102 mm (2×4 in) or a BP or a CT202/BP; 2 half holders that hold an IBP or CT202/IBP; and 1 half holder for an additional specimen X-10114-K includes 26 holders that hold 2 specimens each, 51×102 mm (2×4 in) or a BP or a CT202/BP; 2 half holders that hold an IBP or CT202/IBP; and 1 half holder for an additional specimen 	A1	X-10113-K	50 × 100 mm 2 × 4 in	43 × 96 mm 1.7 × 3.8 in	8	●	—	—
		X-10114-K	50 × 100 mm 2 × 4 in	43 × 96 mm 1.7 × 3.8 in	26	—	—	●
Medium Flat Panel Holder <ul style="list-style-type: none"> Each holder assembly holds 2 specimens and includes 2 panels and 2 retaining rings X-10260-K includes ten 3 × 6 in holder assemblies and two 2 × 4 in holder assemblies 	A1	X-10260-K	75 × 150 mm 3 × 6 in	65 × 147 mm 2.6 × 5.8 in	10	—	—	●
			50 × 100 mm 2 × 4 in	43 × 96 mm 1.7 × 3.8 in	2	—	—	●
Large Flat Panel Holder <ul style="list-style-type: none"> Each holder assembly holds 2 specimens and includes 2 panels and 2 retaining rings X-10261-K includes eight 4 × 6 in holder assemblies and two 2 × 4 in holder assemblies 	A1	X-10261-K	100 × 150 mm 4 × 6 in	93 × 147 mm 3.7 × 5.8 in	8	—	—	●
			50 × 100 mm 2 × 4 in	43 × 96 mm 1.7 × 3.8 in	2	—	—	●
Extra Large Flat Panel Holder <ul style="list-style-type: none"> Each holder assembly holds 2 specimens and includes 2 panels and 2 retaining rings X-10262-K includes six 4 × 8 in holder assemblies and two 2 × 4 in holder assemblies 	A1	X-10262-K	100 × 200 mm 4 × 8 in	93 × 198 mm 3.7 × 7.8 in	6	—	—	●
			50 × 100 mm 2 × 4 in	43 × 96 mm 1.7 × 3.8 in	2	—	—	●
Solid Back Holders <ul style="list-style-type: none"> Full height holder holds 1 large or 2 small specimens with included conversion kit; half height holder holds 1 specimen XR-11008-K includes 15 full, 1 half height holder 	A2, A3	XR-11008-K	45 × 275 mm 1.8 × 10.8 in	45 × 275 mm 1.8 × 10.8 in	16	—	●	—
Standard Open Back Holders <ul style="list-style-type: none"> Each full height holder assembly holds 2 specimens and includes 2 panels; half height holder assembly holds 1 specimen and includes 1 panel XR-11448-K includes 15 full, 1 half height holder assemblies 	A4, A5	XR-11448-K	45 × 132 mm 1.8 × 5.2 in	31 × 127 mm 1.3 × 5 in	16	—	●	—

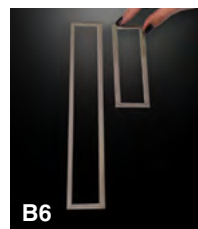
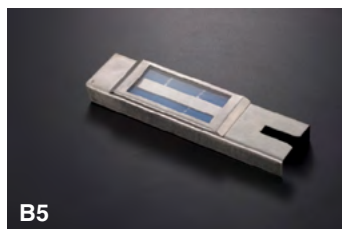
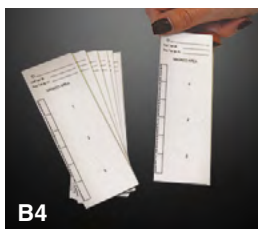
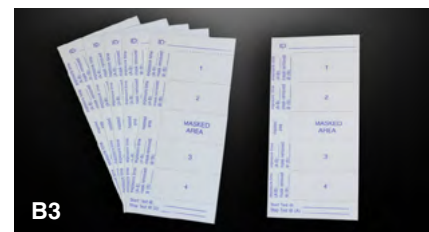
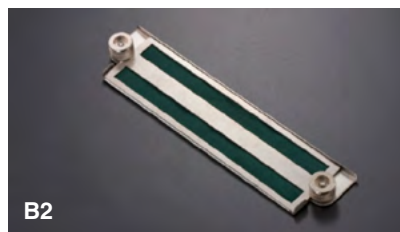
Note: Individual specimen holders are available for some configurations, with a minimum purchase of 5. Contact Q-Lab for more information.



B. Textile Holders and Masks

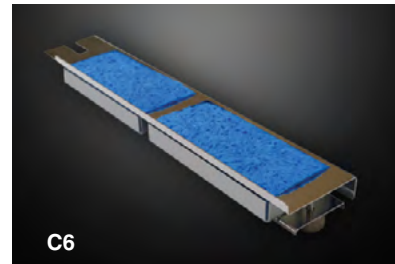
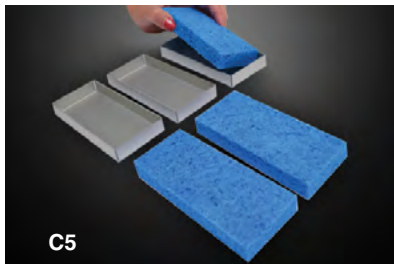
Description	Photo	Part Number	Specimen Size	Specimen Exposure Area	Set Of	Available For:		
						Xe-1	Xe-2	Xe-3
Textile/Thin Film Holder <ul style="list-style-type: none"> Each holder assembly holds 2 specimens and includes 2 panels and 2 retaining rings X-10259-K includes eight 2 × 4 in holder assemblies X-10263-K includes (26) 2 × 4 in holder assemblies 	B1	X-10259-K	50 × 100 mm 2 × 4 in	43 × 96 mm 1.7 × 3.8 in	8	●	—	—
		X-10263-K	50 × 100 mm 2 × 4 in	43 × 96 mm 1.7 × 3.8 in	26	—	—	●
Textile Holder with Masks <ul style="list-style-type: none"> Each holder assembly holds 1 specimen and includes one 1/3 and one 2/3 masks X-10609-K includes (25) 2 × 7.6 in holder assemblies X-10804-K includes (7) 2 × 7.6 in holder assemblies 	B2	X-10609-K	50 × 192 mm 2 × 7.6 in	14 × 180 mm 0.6 × 7.1 in	25	—	—	●
		X-10804-K	50 × 192 mm 2 × 7.6 in	14 × 180 mm 0.6 × 7.1 in	7	●	—	—
AATCC TM16 Textile Masks <ul style="list-style-type: none"> Each perforated paper mask covers a specimen so sections of the specimen can be exposed for different times X-10264-K is used with X-10255-X, X-10259-K and X-10263-K XR-11229-K is used with XR-11315 	B3	X-10264-K	50 × 100 mm 2 × 4 in	Varies	100	●	—	●
	B4	XR-11229-K	45 × 132 mm 1.8 × 5.2 in	Varies	100	—	●	—
ISO 105-B04 Blue Wool Ref Holder <ul style="list-style-type: none"> Holds 1 specimen; includes one each 1/3 and 2/3 masks 	B5	XR-11368-K	45 × 93 mm 1.8 × 3.6 in	12 × 119 mm 0.5 × 4.7 in	1	—	●	—
Picture Frame Masks <ul style="list-style-type: none"> XR-11273-K includes 15 full height masks and 1 half height mask; used with XR-11008-K XR-11315-K includes 31 half height masks; used with XR-11008-K 	B6	XR-11273-K	45 × 275 mm 1.8 × 10.8 in	33 × 259 mm 1.3 × 10.2 in	16	—	●	—
		XR-11315-K	45 × 132 mm 1.8 × 5.2 in	33 × 119 mm 1.3 × 4.7 in	31	—	●	—
ISO 105-B02 Method 1 Masks <ul style="list-style-type: none"> XR-11168-K includes 15 each 1/3 and 2/3 full height masks and 1 each 1/3 and 2/3 half height masks; used with XR-11008-K XR-11316-K includes 31 each 1/3 and 2/3 half height masks; used with XR-11008-K 	B7	XR-11168-K	45 × 275 mm 1.8 × 10.8 in	12 × 259 mm 0.5 × 10.2 in	32	—	●	—
		XR-11316-K	45 × 132 mm 1.8 × 5.2 in	12 × 119 mm 0.5 × 4.7 in	62	—	●	—
ISO 105-B02 Method 2 Masks <ul style="list-style-type: none"> XR-11369-K includes 15 each 1/4, 1/2 and 3/4 full height masks and 1 each 1/4, 1/2 and 3/4 half height masks Used with XR-11008-K 	B8	XR-11369-K	45 × 275 mm 1.8 × 10.7 in	1/4: 27 × 159 mm 1.1 × 10.2 in 1/2: 18 × 159 mm 0.7 × 10.2 in 3/4: 9 × 159 mm 0.4 × 10.2 in	48	—	●	—
ISO 105-B02 Method 2 Masks <ul style="list-style-type: none"> XR-11376-K includes 31 each 1/4, 1/2 and 3/4 half height masks Used with XR-11008-K 	B8	XR-11376-K	45 × 132 mm 1.8 × 5.2 in	1/4: 27 × 119 mm 1.1 × 4.7 in 1/2: 18 × 119 mm 0.7 × 4.7 in 3/4: 9 × 119 mm 0.4 × 4.7 in	93	—	●	—

Note: Individual specimen holders are available for some configurations, with a minimum purchase of 5. Contact Q-Lab for more information.



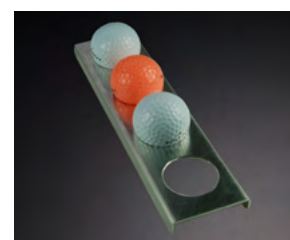
C) 3D and Specialized Specimen Holders

Description	Photo	Part Number	Size 1	Size 2	Set Of	Available For:		
						Xe-1	Xe-2	Xe-3
3D Adjustable Height Part Holder <ul style="list-style-type: none"> For specimens up to 4.5" thick; includes perforated mounting plate and BP/IBP holder 	C1,C2	X-10476-K	Holder: 203 × 203 mm 8 × 8 in	—	5	—	—	●
Narrow Bottle Holder <ul style="list-style-type: none"> Holder is slotted to hold cylindrical specimens Minimum order of 5 	C3	X-10183	Holder: 54 × 222 mm 2.1 × 8.8 in	Slot size: 203 × 18 mm 8 × 0.69 in	1	●	—	●
Wide Bottle Holder <ul style="list-style-type: none"> Holder is slotted to hold cylindrical specimens Minimum order of 5 	C4	X-10184	Holder: 54 × 222 mm 2.1 × 8.8 in	Slot size: 203 × 44 mm 8 × 1.8 in	1	●	—	●
ASTM D7869 Water Spray Qualification Holder <ul style="list-style-type: none"> Holds one specimen X-10952-K includes 3 cups and 12 standard sponges XR-10953-K includes 2 cups, 12 standard sponges and a cup holder 	C5	X-10952-K	Specimen Size: 57 × 127 mm 2.2 × 5 in	Exposure Area: 57 × 127 mm 2.2 × 5 in	3	—	—	●
	C6	XR-10953-K	Specimen Size: 57 × 127 mm 2.2 × 5 in	Exposure Area: 51 × 127 mm 2 × 5 in	2	—	●	—



D) Custom Specimen Holders

For unique applications or for specimens that cannot fit in the standard holders, Q-Lab can design and build custom specimen holders for nearly any application. The photo to the right provides just one small example of a unique application. No matter what is being exposed, the specimen guidelines mentioned on Page 1 of this document should always be followed (i.e. distance from the lamps, shadowing of black panel, and proper airflow). Consult with Q-Lab for recommendations on custom holder designs.



For sales, technical, or repair support, please visit:

Q-Lab.com/support

Westlake, Ohio USA • Homestead, Florida USA • Wittmann, Arizona USA
Bolton, England • Saarbrücken, Germany • Shanghai, China