Q·PANEL
Aluminum Panels

Summary

Q-PANEL® aluminum test substrates from Q-Lab minimize metal variability as a source of bias in critical tests. Made from high quality aluminum, they are clean, consistent, convenient, and economical. A wide range of panel sizes and types are available for immediate shipment from stock. Panels are stored completely clean, and in most cases can be used right out of the box.

Bare Aluminum Panels (Type A, AQ, ARX, and ASX) Type A are our standard aluminum panels, made from alloy 3003 H14, and are 0.64 mm (0.025 in) thick. Alloy 3003 H14 is now the most widely used general purpose aluminum alloy from coil stock. Type AQ are made from alloy 5005 H24, are 0.81 mm (0.032 in) thick, and are offered in Europe to meet Qualicoat requirements. Type ARX are made from alloy 2024 T3, while Type ASX are made from alloy 6061 T6. Both Type ARX and ASX are 0.81 mm (0.032 in) thick, have square corners, no hanging hole, and are also available with or without a removable PE film on one side (-P).

Anodized Aluminum Panels (Type AN) are treated with an anodization process which improves resistance to corrosion. Most aluminum exposed to exterior weathering is given such a durable treatment. Type AN are made from alloy 3003 H14, and are 0.64 mm (0.025 in) thick.

Chromated Aluminum Panels (Type AL, AT, and AQT) are treated with a chromium conversion coating which improves paint adhesion and resistance to underfilm corrosion. Most aluminum is given such a pretreatment prior to painting. Type AL and AT are made from alloy 3003 H14, and are 0.64 mm (0.025 in) thick. Type AQT are made from alloy 5005 H24 and are 0.81 mm (0.032 in) thick. Type AL are pretreated with hexavalent chromium, which is restricted according to certain EU regulations. Type AT and AQT are pretreated with trivalent chromium, which has no such restrictions.

Aluminum Adhesive Panels (Type AD and AR) are made from alloy 2024 T3 and are 1.6 mm (0.063 in) thick and are heavy gauge and made from a high strength aluminum alloy to resist the stress of adhesive testing. Type AR is plain (bare) and Type AD is "Alclad" or laminated with a thin coat of pure aluminum for improved corrosion resistance. These panels do not have our signature, trademarked Q-shaped hole.

Automotive Styling Panels (Type SPC and SPA) are made from coated or bare smooth finish, series-3000 aluminum. They are 381 x 610 x 0.64 mm (15 x 24 in and 0.025 in) thick. They are curved and have a horizontal bend along the center to mimic the side panel of an automobile. Coatings applied to styling panels reflect light in a manner similar to a coating on an actual automobile side panel. Panels are available in a white, coil coated polyester finish or in bare aluminum. Hanging holes are available upon request.

Large Display Panels (Type L-1424) are made from smooth finish, series-3000 aluminum. They are 356 x 610 mm (14 x 24 in), with round corners and a hanging hole. They are useful for evaluating and displaying paints and coatings anywhere a large format is needed.

Curved Panels (-CU) are available on any standard aluminum (or steel) panel width shown below, with the crown heights as indicated. Min box quantity and nominal setup fee applies.
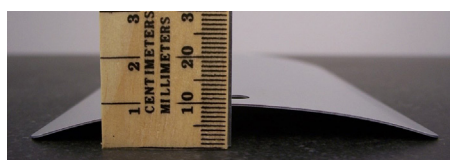
Panel Width	Standard Crown Height
76 mm (3 in)	6.4 ± 1 mm (0.25 ± 0.04 in)
102 mm (4 in)	9.5 ± 1 mm (0.38 ± 0.04 in)
152 mm (6 in)	15.8 ± 1 mm (0.63 ± 0.04 in)

Custom Panels are available for unique needs. Please see page 4 for further details.

A) Q-PANEL Base Metal Alloys, Mechanical Properties, Chemical Composition

Q-Lab Corporation certifies that Q-PANEL Brand Test Substrates, type Aluminum, designation "A", "AL", "AN", "AR", "AS", "AT", "AD", "AQ", and "AQT" comply with the specifications found in the following tables.

	Type A, AL, AN, AT	Type AQ, AQT	Type AR, ARX	Type ASX	Type AD
Alum. Assoc. Material Design.	3003 H14	5005 H24	2024 T3	6061 T6	2024 T3 Alclad
ASTM Material Specifications	B209	B209	B209	B209	B209
AMS Material Specifications	QQ-A-250/2	—	QQ-A-250/4	QQ-A-250/11	QQ-A-250/5
ISO Material Design. (ISO 209-1)	AlMn1Cu	AlMg1(B)	AlCu4Mg1	AlMg1SiCu	AlCu4Mg1
ISO Panel Specifications	209-1, 1514	209-1	209-1	209-1	209-1
Tensile Strength* (kpsi)	20 - 26	20 - 26	>63	>42	>61
Tensile Strength* (MPa)	140 - 180	140 - 180	>435	>290	>420
Min Yield Strength* (kpsi)	17	15	42	35	40
Min Yield Strength* (MPa)	115	105	290	240	275
Aluminum (%)	Balance	Balance	Balance	Balance	Balance
Chromium (%)	—	<0.10	<0.10	0.04 - 0.35	<0.10
Copper (%)	0.05 - 0.20	<0.20	3.80 - 4.90	0.15 - 0.40	3.80 - 4.90
Iron (%)	<0.70	<0.70	<0.50	<0.70	<0.50
Manganese (%)	1.00 - 1.50	<0.20	0.30 - 0.90	<0.15	0.30 - 0.90
Magnesium (%)	—	0.50 - 1.10	1.20 - 1.80	0.80 - 1.20	1.20 - 1.80
Silicon (%)	<0.60	<0.30	<0.50	0.40 - 0.80	<0.50
Titanium (%)	—	—	<0.15	<0.15	<0.15
Zinc (%)	<0.10	<0.25	<0.25	<0.25	<0.25
Iron + Silicon (%)	—	—	—	—	—
Others (Each/Total) (%)	0.05 - 0.15	0.05 - 0.15	0.05 - 0.15	0.05 - 0.15	0.05 - 0.15

Notes: * Per ASTM B209-07 and B209M-07

B) Q-PANEL Coating Composition

	Coating Description
AN	Sulfuric acid anodized per MIL-A-8625 Type II, Class 1 minimum coating thickness 2.6 micron (.000103 inch) with seal, color is clear.
AL	Hexavalent chrome conversion coating per ASTM B449 Class 2 and ISO 10546 Class 3. Coating weight 0.16 - 0.27 g/m² (15-25 mg/ft²), color is brown.
AT, AQT	RoHS and REACH Compliant trivalent chrome conversion coating per ASTM B921 Class 2. Coating weight 0.11 - 0.21 g/m² (10-20 mg/ft²), color is clear.

C) Q-PANEL Dimensions, Stock Numbers and Box Quantities

Panel & Description	Stock Number	Size W x L (in) (± 0.04, except as noted)	Thickness (in) (± 0.002, except as noted)	Size W x L (mm) (± 1, except as noted)	Thickness (mm) (± 0.05, except as noted)	Box Qty	In Stock? US	In Stock? EU
Type A Bare Surface Smooth Mill Finish	A-1.75-5	1.75 x 5	0.025	44 x 127	0.64	800	●	●
	A-2-3.5	2 x 3.5	0.025	51 x 89	0.64	500	●	●
	A-24	2 x 4	0.025	51 x 102	0.64	450	●	●
	A-2.75-4	2.75 x 4	0.025	70 x 102	0.64	300	●	○
	A-35	3 x 5	0.025	76 x 127	0.64	500	●	●
	A-36	3 x 6	0.025	76 x 152	0.64	500	●	●
	A-39	3 x 9	0.025	76 x 229	0.64	150	○	○
	A-46	4 x 6	0.025	102 x 152	0.64	250	●	●
	A-48	4 x 8	0.025	102 x 203	0.64	150	●	●
	A-412	4 x 12	0.025	102 x 305	0.64	125	●	●
	A-612	6 x 12	0.025	152 x 305	0.64	125	●	●

Notes: * No Q-Shaped Hole   ● Typically in stock   ○ Special order   ⊗ Not available after September 2017

C) Q-PANEL Dimensions, Stock Numbers and Box Quantities (Continued)

Panel Type & Description	Stock Number	Size W x L (in) (± 0.04, except as noted)	Thickness (in) (± 0.002, except as noted)	Size W x L (mm) (± 1, except as noted)	Thickness (mm) (± 0.05, except as noted)	Box Qty	In Stock? US	In Stock? EU
Type AQ, ARX, & ASX Bare Surface Smooth Mill Finish	AQ-24	2 x 4	0.032	51 x 102	0.81	600	○	●
	AQ-36	3 x 6	0.032	76 x 152	0.81	400	○	●
	AQ-44	4 x 4	0.032	102 x 102	0.81	200	○	●
	AQ-46	4 x 6	0.032	102 x 152	0.81	300	○	●
	AQ-48	4 x 8	0.032	102 x 203	0.81	125	○	●
	AQ-412	4 x 12	0.032	102 x 305	0.81	100	○	●
	AQ-2.36-5.51	2.36 x 5.51	0.032	60 x 140	0.81	250	○	●
	AQ-612	6 x 12	0.032	152 x 305	0.81	100	○	●
	ARX-310*	3 x 10	0.032	76 x 254	0.81	125	●	○
	ASX-310*	3 x 10	0.032	76 x 254	0.81	125	●	○
Type AN Anodized Surface Smooth Mill Finish	AN-36	3 x 6	0.025	76 x 152	0.64	500	●	●
	AN-46	4 x 6	0.025	102 x 152	0.64	250	●	●
	AN-612	6 x 12	0.025	152 x 305	0.64	125	●	●
Type AL, AT, AQT Chromated Surface Smooth Mill Finish	AL-2-3.5	2 x 3.5	0.025	51 x 89	0.64	500	●	⊗
	AL-35	3 x 5	0.025	76 x 127	0.64	500	●	⊗
	AL-36	3 x 6	0.025	76 x 152	0.64	500	●	⊗
	AL-39	3 x 9	0.025	76 x 229	0.64	150	○	⊗
	AL-46	4 x 6	0.025	102 x 152	0.64	250	●	⊗
	AL-48	4 x 8	0.025	102 x 203	0.64	150	○	⊗
	AL-412	4 x 12	0.025	102 x 305	0.64	125	●	⊗
	AL-612	6 x 12	0.025	152 x 305	0.64	125	●	⊗
	AT-2-3.5	2 x 3.5	0.025	51 x 89	0.64	400	●	●
	AT-35	3 x 5	0.025	76 x 127	0.64	500	●	●
	AT-36	3 x 6	0.025	76 x 152	0.64	500	●	●
	AT-39	3 x 9	0.025	76 x 229	0.64	150	○	○
	AT-46	4 x 6	0.025	102 x 152	0.64	250	●	●
	AT-48	4 x 8	0.025	102 x 203	0.64	150	○	○
	AT-412	4 x 12	0.025	102 x 305	0.64	125	●	●
	AT-612	6 x 12	0.025	152 x 305	0.64	125	●	●
	AQT-36	3 x 6	0.032	76 x 152	0.81	400	○	●
	AQT-46	4 x 6	0.032	102 x 152	0.81	300	○	●
	AQT-412	4 x 12	0.032	102 x 305	0.81	100	○	●
Type AD Alclad Surface	AD-14*	1 x 4 (± 0.01)	0.0630 (± 0.0024)	25 x 102 (± 0.25)	1.60 (± 0.06)	600	●	●
Type AR Bare Surface	AR-14*	1 x 4 (± 0.01)	0.0630 (± 0.0024)	25 x 102 (± 0.25)	1.60 (± 0.06)	600	●	●

Notes: * No Q-Shaped Hole ● Typically in stock ○ Special order ⊗ Not available after September 2017

D) Q-PANEL Dimensions, Stock Numbers and Box Quantities

Panel Type & Description	Stock Number	Size (in) W x L (± 0.04, except as noted)	Thickness (in) (± 0.002, except as noted)	Size (mm) W x L (± 1, except as noted)	Thickness (mm) (± 0.05, except as noted)	Box Qty	In Stock?	
							US	EU
Type SPC Coated Auto	SPC-1524*	15 x 24	0.025	381 x 610	0.64	10	●	○
Type SPA Bare Auto	SPA-1524*	15 x 24	0.025	381 x 610	0.64	10	●	○
Type L Large Display	L-1424	14 x 24	0.025	356 x 610	0.64	10	●	○

Notes: * No Q-Shaped Hole   ● Typically in stock   ○ Special order
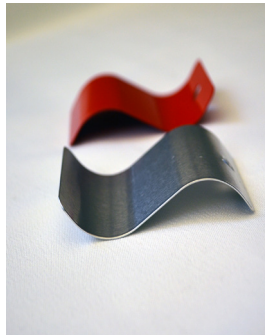
E) Custom Panels

In addition to our standard panels, we can also make types and sizes not shown in this specification bulletin. These include custom panels as small as 1 in (2.54 cm) circles, to as large as 5 ft x 5 ft (1.5 m x 1.5 m) automotive-sized panels. Custom panels may also be ordered in a variety of shapes, alloys and finishes. This includes curved, bent, grit-blasted, welded, embossed, perforated, pre-painted in grey or white with a variety of patterns, and other options.

These custom panels are most cost-effective when there are quantities sufficient to allow an economical production run, and when the material is available from our stock metal or readily available alloys. Contact Q-Lab with your custom panel specifications now!

The Q-PANEL automotive refinish training system is a cost-effective simulation of hoods and fenders.

Custom panels in complex shapes can be created with a small minimum order size.

A variety of different pre-painted, patterned and other custom panels can be made upon request.

Panels can be customized in dozens of different ways, such as adding your company's logo.

Cleaning and Packaging

Our production process thoroughly cleans the panels and removes any oil or contaminants that might be on the surface. Steel panels are packed in plastic bags with vapor phase rust inhibitor and shipped in a sturdy cardboard carton. With this multilayer packaging, our steel panels may have a shelf life of up to 10 years. In most cases the panels can be used right out of the package. However, for critical applications it may sometimes be necessary to remove traces of the rust inhibitor with a distilled water or MEK wipe prior to coating the panel.

Quantity Discounts

Quantity discounts are available. Please consult with Q-Lab or your local representative for details.

Satisfaction Guaranteed

If the panels do not meet your expectations of quality, you may return them for a full refund or replacement. Just call for a return authorization number. For other returns and replacements, a 15% restocking fee will be charged ($50 minimum). Q-Lab Corporation makes no other warranties, including implied warranties of merchantability or fitness for a particular purpose, except as may be expressly provided by Q-Lab Corporation in writing. Q-Lab Corporation shall not be liable for any incidental, consequential, special or contingent damages arising out of the sale or use of any product. Warranty is only valid on shipments within the United States. Due to shipping circumstances beyond our control, we are not able to offer warranties on exported panels.

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