



Q-PANEL

Steel and Iron Phosphated Panels

Summary

Q-PANEL[®] steel test substrates from Q-Lab minimize metal variability as a source of bias in critical tests. Made from standard low-carbon, cold-rolled steel, they are clean, consistent, convenient and economical. A wide range of panel sizes and types are available for immediate shipment from stock.

Smooth Finish Steel Panels (Type QD) have a smooth, bright finish and are 0.020" (0.51 mm) thick. As our smoothest panel, Type QD is recommended for testing gloss and color. These panels are the best buy for many general applications, but are not recommended for physical properties and corrosion tests.



Panels are stored completely clean and, in most cases, can be used right out of the box.

Matte Finish Steel Panels (Type R) are a dull matte mill finish produced by roughened rolls. This matte finish is representative of general purpose sheet metal applications. Because they are thicker, 0.032" (0.81 mm), Type R panels are more rigid than Type QD.

Ground (Polished) Finish Steel Panels (Type S) are the same steel as Type R, with a thickness of 0.032" (0.81 mm), but one side is polished by grinding it with an abrasive until the mill surface is completely removed. This imparts a smooth surface that looks similar to a "brushed" finish. The ground (or polished) surface frequently gives better adhesion results than a matte finish.

Thin, Flexible (Smooth Finish) Steel Panels (Type D and Type DT) are very thin 0.010" (0.25 mm), flexible panels. Type D offers the same smooth surface as Type QD, while Type DT panels are tin plated. These types are very inexpensive and are stocked in a limited number of sizes.



Painted Panels (Type WW, GW and WWS) are pre-coated in gray or white to eliminate the time required to prime test substrates. They are also available with black stripes and other patterns to test the hiding ability of a coating. They are 4 x 6 in (102 x 152 mm) and .007" (.18 mm) thick.

Iron Phosphate Treatment (Type R-XX-I and Type S-XX-I).

Q-PHOS iron phosphated panels are pretreated with Bonderite M-FE 1000[™], the most commonly used type of industrial iron phosphate. Panels incorporate a chrome seal and virgin deionized water rinse. Iron phosphated panels have a coating weight of 323 to 646 mg/m² and are 0.032" (0.81 mm) thick.

Stainless Steel (Type SS) panels are made from 304 stainless alloy and are available in two sizes: 1 x 3 in (25 x 76 mm) and 3 x 6 in (76 x 152 mm). They are 0.035" (0.89 mm) thick. They do not have a Q-shaped hole.



Adhesion Panels (Ground Finish) (Type RS) are stocked in a 1 x 4 in. (25 x 102 mm) size and 0.063" (1.6 mm) thickness for testing adhesives. One side has a surface finish very similar to our Type S. These panels are thicker and harder than our regular steel, to resist the stress of lap shear testing of high strength adhesives. These panels do not have our signature, trademarked Q-shaped hole.



Taber® Abraser Panels (Type R-44-T and Type S-44-T) are specially designed for use with the Taber Abraser Tester. They are 4 x 4 in. (101 x 101 mm) and 0.032" (0.81 mm) thick, with a hole in the center. Their surface finish corresponds with our Type R and Type S panels, respectively.

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

A) Q-PANEL Alloys, Mechanical Properties and Relevant Standards

CRS panel specifications (nominal) for steel panels: cold rolled steel, low carbon SAE 1008/1010

Table 2. Mechanical Properties & Standards Met by Q-PANEL Test Substrates

	Type QD	Type R	Type S	Type D	Type DT	Type RS	Type WW & GW
SAE Material Designation	1008/1010	1008/1010	1008/1010	1008/1010	1008/1010	1008/1010	1008
ASTM Material Specifications	A1008	A1008	A1008	A1008	A624	A109	—
ISO Material Specifications	3574 Type CR1	3574 Type CR1	3574 Type CR1	3574 Type CR1	11949	—	—
ASTM Panel Specifications	D609-Type 3	D609-Type 1	D609-Type 2	D609-Type 3	—	D1002	—
ISO Panel Specifications	1514-Type 3	1514-Type 1	1514 Section 3.5.4	1514-Type 3	1514 Section 4.1	1514	—
Roughness Ra (micro-inches)	<20	25-65	20-45	<20	<20	20-45	60° Paint Gloss Gray: 4-5 White: 8-9
Surface Finish	Smooth	Dull Matte	Ground	Smooth	Tinplate	Ground	Painted
Temper	1/4 hard	1/4 hard	1/4 hard	T4	T2	1/2 hard	1/2 hard
Hardness (Rockwell)	B50-B65	B50-B65	B50-B65	B62-71	B50-65	B70-B85	B60-88
Tensile Strength (kpsi)	45 - 65	45 - 65	45 - 65	45 - 65	38 - 58	55 - 75	—
Tensile Strength (MPa)	310 - 448	310 - 448	310 - 448	310 - 448	262 - 400	379 - 517	—

B) Q-PANEL Chemical Composition

The chemical composition of SAE 1008/1010 steel panels is 0.60% max Manganese, 0.15% max Carbon, 0.030% max Phosphorus, 0.035% max Sulfur.

All Q-PHOS panels are made from the same premium steel as Q-PANEL standard steel substrates.

C) 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 QD Steel, Smooth Finish	QD-2-3.5	2 x 3.5	0.020	51 x 89	0.51	500	●	●
	QD-24	2x4	0.020	51 x 102	0.51	600	●	○
	QD-2.75-4	2.75 x 4	0.020	70 x 102	0.51	400	○	○
	QD-35	3x5	0.020	76 x 127	0.51	400	●	●
	QD-36	3x6	0.020	76 x 152	0.51	400	●	●

* No Q-Shaped Hole

● Typically in stock

○ Special order

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

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 QD (Continued) Steel, Smooth Finish	QD-39	3x9	0.020	76 x 229	0.51	200	○	○
	QD-46	4x6	0.020	102 x 152	0.51	200	●	●
	QD-48	4x8	0.020	102 x 203	0.51	200	●	●
	QD-412	4 x 12	0.020	102 x 305	0.51	150	●	●
	QD-2.36-5.51	2.36 x 5.51	0.020	60 x 140	0.51	400	○	●
	QD-612	6 x 12	0.020	152 x 305	0.51	150	●	●
Type R Steel, Dull Matte Finish	R-13*	1 x 3 (± 0.01)	0.032	25 x 76 (± 0.25)	0.81 (± 0.08)	1400	●	○
	R-2-3.5	2 x 3.5	0.032	51 x 89	0.81	300	●	●
	R-35	3x5	0.032	76 x 127	0.81	250	●	●
	R-36	3x6	0.032	76 x 152	0.81	250	●	●
	R-39	3x9	0.032	76 x 229	0.81	125	○	○
	R-46	4x6	0.032	102 x 152	0.81	200	●	●
	R-48	4x8	0.032	102 x 203	0.81	125	●	●
	R-412	4 x 12	0.032	102 x 305	0.81	100	●	●
	R-612	6 x 12	0.032	152 x 305	0.81	100	●	●
	Taber® Abrasion	R-44-T	4x4	0.032	102 x 102	0.81	250	○
Type S Steel, Ground Finish (One Side)	S-35	3x5	0.032	76 x 127	0.81	250	●	○
	S-36	3x6	0.032	76 x 152	0.81	250	●	●
	S-39	3x9	0.032	76 x 229	0.81	125	○	○
	S-46	4x6	0.032	102 x 152	0.81	200	●	●
	S-48	4x8	0.032	102 x 203	0.81	125	●	●
	S-412	4 x 12	0.032	102 x 305	0.81	100	●	○
	S-612	6 x 12	0.032	152 x 305	0.81	100	○	○
	Taber® Abrasion	S-44-T	4x4	0.032	102 x 102	0.81	250	○
Type D Steel, Smooth Finish	D-35	3x5	0.010 (± 0.001)	76 x 127	0.25 (± 0.03)	800	●	○
	D-36	3x6	0.010 (± 0.001)	76 x 152	0.25 (± 0.03)	800	●	●
	D-46	4x6	0.010 (± 0.001)	102 x 152	0.25 (± 0.03)	400	●	●
Type DT Steel, Tinplate	DT-36	3x6	0.010 (± 0.001)	76 x 152	0.25 (± 0.03)	800	●	●
	DT-46	4x6	0.010 (± 0.001)	102 x 152	0.25 (± 0.03)	400	○	●
Type W Pre-Painted	WW-46	4x6	0.007	102 x 152	0.18	800	○	○
	GW-46	4x6	0.007	102 x 152	0.18	800	○	○
	WWS-46	4x6	0.007	102 x 152	0.18	800	○	○
Type SS Steel, Stainless	SS-13*	1 x 3 (± 0.01)	0.035 (± 0.003)	25 x 76 (± 0.25)	0.89 (± 0.08)	1400	●	○
	SS-36*	3x6	0.035 (± 0.003)	76 x 152	0.89 (± 0.08)	250	●	○
Type RS Steel, Ground Finish	RS-14*	1 x 4 (± 0.01)	0.0630 (± 0.0024)	25 x 102 (± 0.25)	1.60 (± 0.08)	600	●	●
Type R-XX-I Iron Phosphated Dull Matte Finish	R-36-I	3x6	0.032	76 x 152	0.81	250	●	●
	R-46-I	4x6	0.032	102 x 152	0.81	200	●	●
	R-412-I	4 x 12	0.032	102 x 305	0.81	100	●	○
Type S-XX-I Iron Phosphated Ground Finish	S-36-I	3x6	0.032	76 x 152	0.81	250	●	○
	S-46-I	4x6	0.032	102 x 152	0.81	200	●	○
	S-412-I	4 x 12	0.032	102 x 305	0.81	100	○	○

* No Q-Shaped Hole

● Typically in stock

○ Special order

D) Curved and 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" (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, shot-blasted, welded, dimpled, perforated, pre-coated with a variety of colors and 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.



Some aluminum panels of 3" or wider can be curved with a minimum order of 100 panels.



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

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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