

# Steel Panels



Steel panels are made from standard low-carbon, cold-rolled steel complying with ASTM A1008, A-109 and QQS-698.

**Smooth Finish Steel Panels, Type QD** have a smooth, bright finish produced at the steel mill by rolling with smooth ground rolls. Because it is our smoothest panel, Type QD is recommended for testing gloss and color. Because Type QD is less expensive, it is also the best buy for many general applications. However, Type QD panels are not recommended for physical properties and corrosion tests.

**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, Type R panels are more rigid than Type QD.

**Ground (Polished) Finish Steel Panels, Type S** are the same steel as Type R, 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 mill finish. Although ground panels are not representative of any specific steel surface normally used for painting, they

are widely used because they provide a standardized surface for testing.

**Thin, Flexible (Smooth Finish) Steel Panels, Type D** are very thin, flexible panels with the same smooth surface as Type QD. This type is very inexpensive and is stocked in a limited number of sizes.

**Tinplate Steel Panels, Type DT** are the same steel as Type D except tinplated with bright reflow finish. This type is required by some government standards.

**Adhesion Panels (Ground Finish), Type RS** are stocked in a 1.6 x 25 x 101 mm size 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.

**Taber® Abraser Panels, Type R44-T and Type S44-T** are specially designed for use with the Taber Abraser Tester. They are 0.8 x 101 x 101 mm, with a hole in the center. Their surface finish corresponds with our Type R and Type S panels, respectively.

*Steel panels, packed with vapor phase rust inhibitor, can have a shelf life of up to 10 years.*

**Stainless Steel, Type SS** panels are made from 304 stainless alloy and are available in two sizes. They do not have a hanging hole.

## Cleaning and Packaging

The production process thoroughly cleans the panels and removes any oil 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.



## CRS Panel Specifications (nominal) Cold Rolled Steel, Low Carbon, SAE 1008/1010

	Type QD	Type R	Type S	Type D	Type DT	Type RS
Thickness	0.020" (0.5mm)	0.032" (0.8mm)	0.032" (0.8mm)	0.010" (0.25mm)	0.010" (0.25mm)	0.063" (1.6mm)
Finish	Smooth	Dull Matte	Ground	Smooth	Tinplate	Ground
Roughness, Ra (micro-inches)	<20	25-65	20-45	<20	<20	20-45
ASTM Specs.	A1008 D609-Type 3	A1008 D609-Type 1	A1008 D609-Type 2	A1008 D609-Type 3	A624	A109
Fed. Steel Spec	QQ-S-698	QQ-S-698	QQ-S-698	QQ-S-698	QQ-S-698	QQ-S-698
ISO Specs.	1514-Type 3	1514-Type 1 3574 Type CR1	1514	1514-Type 3	1514, 11949	1514
Temper	1/4 hard	1/4 hard	1/4 hard	T4	T2	1/2 hard
Hardness (Rockwell)	B50-B65	B50-B65	B50-B65	B62-71	B50-65	B70-B85
Tensile (psi)	55,000	55,000	55,000	55,000	48,000	65,000

### Chemical Composition of SAE 1008/1010 Steel Panels (nominal %)

Element:	Manganese	Carbon	Phosphorus	Sulfur
Percentage:	0.60 max	0.15 max	0.030 max	0.035 max

## Specifications

Panel Type	Description	Stock Number	Size (mm)	Box Quantity	Weight per 100 (kgs)
<b>Type QD</b>	Smooth Finish	QD-2-3.5	50 x 90	500	3.63
		QD-24	51 x 102	600	2
		QD-2.75-4	70 x 102	400	2.75
		QD-35	76 x 127	400	4.09
		QD-36	76 x 152	400	4.55
		QD-39	76 x 229	200	7
		QD-46	102 x 152	200	6.36
		QD-48	102 x 203	200	8.5
		QD-412	102 x 305	150	12.27
		QD-612	152 x 305	150	18.64
<b>Type R</b>	Dull Matte Finish	R-2-3.5	50 x 90	300	3.18
		R-35	76 x 127	250	6.36
		R-36	76 x 152	250	7.27
		R-39	76 x 229	125	12
		R-46	102 x 152	200	10
		R-48	102 x 203	125	13.6
		R-412	102 x 305	100	20
		R-612	152 x 305	100	29.55
	Taber® Abrasion	R-44-T	102 x 102	250	6.55
<b>Type S</b>	Ground Finish (one side)	S-35	76 x 127	250	6.36
		S-36	76 x 152	250	7.27
		S-39	76 x 229	125	12
		S-46	102 x 152	200	10
		S-48	102 x 203	125	30.4
		S-412	102 x 305	100	20
		S-612	152 x 305	100	29.55
	Taber® Abrasion	S-44-T	102 x 102	250	6.55
<b>Type D</b>	Smooth Finish	D-36	76 x 152	800	2.27
		D-46	102 x 152	400	3.18
<b>Type DT</b>	Tinplate	DT-36	76 x 152	800	2.27
<b>Type SS</b>	Stainless	SS-36	76 x 152	250	9
<b>Small Panels (no hole)</b>	Matte Finish	R-13	25 x 76	1400	1.37
	Ground Finish	RS-14	25 x 102	600	3.64
	Stainless	SS-13	25 x 76	1400	1.82

## QUANTITY DISCOUNTS

Total Amount of Order	\$500USD	\$1000	\$2500	\$5000
Discount Off List Price	5%	10%	15%	20%

### ORDERING:

Specify Stock Number and number of boxes.

### MINIMUMS:

Orders for less than a full box quantity will incur a \$15 Special Handling Charge to cover the costs of repackaging.

### HANDLING CHARGE:

There is a \$5 Handling Charge for orders under \$1000.

### TERMS:

Net 30 Days. All freight charges are the responsibility of the purchaser.

## SATISFACTION GUARANTEED

Due to shipping circumstances beyond our control, we are not able to offer warranties on exported panels outside of North America.



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# Aluminum Panels



Aluminum panels are often more convenient to use than steel because of their light weight and corrosion resistance. Aluminum panels can be used to replace steel for sales samples, color standards, mailing, and even for weathering tests.

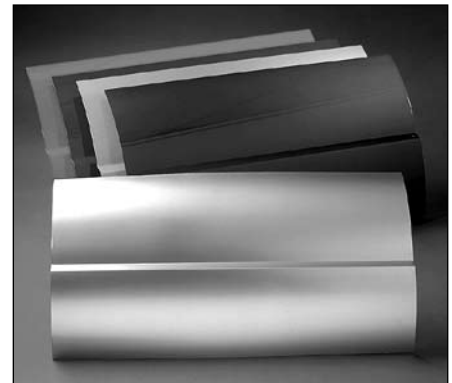
**Bare Aluminum Panels, Type A** are made from alloy 3003 H14 and they are 0.6 mm thick. Type A is our standard aluminum panel. Alloy 3003 H14 is now the most widely used general purpose aluminum alloy from coil stock.

**Chromated Aluminum Panels, Type AL** are made from alloy 3003 H14. They are 0.6 mm thick and are similar to Type A, except they 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.

**Aluminum Adhesion Panels, Type AD and Type AR** are made from alloy 2024

T3 and are 1.6 mm thick. They 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. They do not have a hanging hole.

**Automotive Styling Panels, Type SPC and Type SPA** are made from coated or mill finish alloy 3003 H14 and are 0.6 mm thick. They are curved and have a horizontal bend along the center line to mimic the side panel of an automobile. Coatings applied to styling panels reflect light in a manner that is similar to a coating on an actual automobile side panel. These panels are used for evaluating and displaying automotive type coatings. They are also useful for training spray-system operators. Automotive Styling Panels are 381 x 610 mm. Panels are available in a white, coil coated polyester finish or in bare aluminum. Rounded corners and



*Automotive Styling Panels are curved to mimic the side panel of a car.*

hanging holes are not standard, but are available upon request. Panels are clean and ready to use.

**Large Display Panels, Type L-1424** are made from mill finish alloy 3105 H24. They are 356 x 610 mm, with round corners and a hanging hole. L-1424 panels are useful for evaluating and displaying coatings.

## Specifications – Aluminum Panels (nominal)

	Type A	Type AL	Type AR	Type AD
Alloy	3003 H14	3003 H14	2024T3 Bare	2024T3 Alclad
Thickness	0.6mm	0.6mm	1.6mm	1.6mm
Surface	Bare	Chromate	Bare	Alclad
ASTM	B209	B209 B449-Class 2	B209	B209
Fed. Spec.	QQ-A-250/2	QQ-A-250/2	QQ-A-250/4	QQ-A-250/5
Tensile Strength (ksi)	20-26,000	20-26,000	63,000	61,000
Yield Strength (ksi)	17,000	17,000	42,000	40,000
Hardness (Brinell 500Kg/10mm)	—	—	120	120

## Percent Chemical Composition of Aluminum Panels (nominal)

	Type A	Type AL	Type AR	Type AD Clad Surface	Core
	Remainder	Remainder	Remainder	Remainder	Remainder
Aluminum	—	—	—	—	—
Chromium	—	—	0.1	—	0.1
Copper	0.05-0.20	0.05-0.20	3.8-4.9	0.10	3.9-4.9
Iron	0.7	0.7	0.5	0.70 Si + Fe	0.5
Manganese	1.0-1.5	1.0-1.5	0.3-0.9	0.05	0.3-0.9
Magnesium	—	—	1.2-1.8	0.05	1.2-1.8
Silicon	0.6	0.6	0.5	0.70 Si + Fe	0.5
Titanium	—	—	0.15	0.03	0.15
Zinc	0.10	0.10	0.25	0.10	0.25
Others (total)	0.15	0.15	0.15	0.15	0.15

# Aluminum Panels



Panel Type	Description	Stock Number	Size (mm)	Box Quantity	Weight per 100 (Kg)
Type A	Smooth Mill Finish 3003 H14	A-2-3.5	50 x 90	500	0.45
		A-24	51 x 102	450	0.88
		A-2.75-4	70 x 102	300	1.33
		A-35	76 x 127	500	1.82
		A-36	76 x 152	500	2.27
		A-39	76 x 229	150	3.33
		A-46	102 x 152	250	2.73
		A-48	102 x 203	150	4
		A-412	102 x 305	125	5.45
Type AL	Chromated Smooth Mill Finish 3003 H14	AL-2-3.5	50 x 90	500	0.45
		AL-35	76 x 127	500	1.82
		AL-36	76 x 152	500	2.27
		AL-39	76 x 229	150	3.33
		AL-46	102 x 152	250	2.73
		AL-48	102 x 203	150	4
		AL-412	102 x 305	125	5.45
		AL-612	152 x 305	125	8.18
Curving	Any Panel Above	\$ 0.40 each added to the panel price. Minimum order is 100/panel type.			
Small Panels	2024T3 Alclad	AD-14	25 x 102	550	6.77
	2024T3 Bare	AR-14	25 x 102	550	6.77
Large Display Panels	Coated Auto Style	SPC-1524	380 x 610	10	9
	Bare Auto Style	SPA-1524	380 x 610	10	9
	Round Corners/Hole	L-1424	380 x 610	10	12

## QUANTITY DISCOUNTS

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# Iron Phosphated Panels



Q-Phos panels are made from the same premium steel as our standard panels.

## High Quality, Low Cost

Q-Phos™ panels are available in two surface types and a range of sizes to suit most testing requirements. Premium quality is assured by documentation of source lot quality; statistical monitoring of processing; and statistical monitoring of finished panel characteristics. Stock Q-Phos panels are normally available for immediate shipment.

All Q-Phos panels are made from the same premium steel as Q-Panel standard substrates. Panels are available in Type R and Type S (polished).

## Iron Phosphate Treatment

Q-Phos iron phosphated panels are pretreated with Bonderite 1000,™ the most commonly used type of industrial iron phosphate. Panels are phosphated on a seven stage spray pretreatment line which incorporates a chrome seal and virgin deionized water rinse. Iron phosphated panels have a coating weight of 30 to 60 mg/ft<sup>2</sup>.

## Metal Specifications

Q-Phos panels are made from the same premium steel as standard Q-Panels. Full specifications for the metal used for Q-Phos test panels can be found in the Steel Panels Specification bulletin LP-0861.4-A-EX.

## Specifications

Description	Stock Number	Size (mm)	Box Quantity	Weight per 100 (Kg)
Dull Matte Finish	R-36-I	76 x 152	250	7.27
	R-46-I	102 x 152	200	10
	R-412-I	102 x 305	100	20
Ground Finish	S-36-I	76 x 152	250	7.27
	S-46-I	102 x 152	200	10
	S-412-I	102 x 305	100	20

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### QUANTITY DISCOUNTS

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Discount Off List Price	5%	10%	15%	20%

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