



HOW TO CHOOSE SIGN BOARD



Product Brand Name	Highway HDO®	SignReady UV™	Pre-finished UV™	Signal® MDO	Pre-Primed MDO	Crezon®/Two Step® MDO	Guardian® MDO							
Description	Premium, high durability, HDO plywood, prepped for reflective film or exterior paint for Fed/State/Muni highway and commercial signage.	Prefinished, high gloss MDO plywood ready for wide layout digital printers, vinyl letters & paints. It has a 5 year limited warranty against flaking & peeling.	Prefinished, satin gloss MDO plywood ready for wide layout digital printers, vinyl letters & paints. It has a 2 year limited warranty against flaking & peeling.	MDO overlaid, hardwood faced plywood with tight core for superb machinability and weatherability. It is ideal for cutout letters & quality signs.	Proprietary, thermo-set, acrylic, primed MDO which is applied to 2 step, Douglas Fir/Hemlock plywood.	Premium, unfinished, paint grade, medium density overlaid plywood which provides a superior surface for finishing.	Economical, paint grade, medium density overlaid plywood provides a good surface for finishing.							
Panel Construction	Premium, High Density Overlaid, hardwood faced plywood with Douglas Fir inner plys; 2 Step layup with minimal core voids; Standard & Texas cores available Made in the USA; Meets APA PS 1-07	Proprietary, Urethane-acrylic, cross-linked, UV cured finish applied to MDO on hardwood faced plywood with Douglas Fir/Hemlock inner plys; 2 Step layup; Made in the USA; Meets APA PS 1-07	Proprietary, Urethane-acrylic, cross-linked, UV cured finish on Medium Density overlaid Douglas Fir/Hemlock plywood; 2 Step layup; Made in the USA; Meets APA PS 1-07	Medium Density Overlaid, hardwood faced plywood with Douglas Fir/Hemlock inner plys; 2 Step layup with minimal core voids; Made in the USA; Meets APA PS 1-07	Proprietary, thermo-set acrylic primer applied to Medium Density Overlaid plywood with Douglas Fir/Hemlock construction; 2 Step layup; Made in the USA; Meets APA PS 1-07	Medium Density Overlaid plywood with Douglas Fir/ Hemlock construction; 2 Step layup; Made in the USA; Meets APA PS 1-07	Medium Density Overlaid plywood with Douglas Fir/ Hemlock construction; 1 Step layup; Made in the USA; Meets APA PS 1-07							
Features and Benefits	<ul style="list-style-type: none"> Reflective film or paint ready Non-standard Texas DMS 7100 & Illinois T-7-2006 are available. Extremely durable with long life Exceptional weatherability High strength, light weight Waterproof bond = water resistance High Face/Edge screwholding Very low formaldehyde: meets CARB 	<ul style="list-style-type: none"> Smooth, high gloss finish is ready for vinyl letter, digital print & paint Great scratch, chip & mar resistance Exceptional weatherability Low wood grain & no patch transfer 5 year flaking & peeling warranty Waterproof bond = water resistance High Face/Edge screwholding Very low formaldehyde: meets CARB 	<ul style="list-style-type: none"> Economical, high gloss finish is ready for vinyl letter, digital print & paint Excellent scratch & mar resistance Superior weatherability 2 year flaking & peeling warranty High strength, light weight Waterproof bond = water resistance High Face/Edge screwholding Very low formaldehyde: meets CARB 	<ul style="list-style-type: none"> Tightly laid core for excellent machinability and weatherability Excellent for cut letters Long term smooth surface for paints & coatings High strength, light weight Waterproof bond = water resistance High Face/Edge screwholding Very low formaldehyde: meets CARB 	<ul style="list-style-type: none"> Economical, smooth surface for high quality enamels Pre-primed MDO saves time & labor Superior surface & life High strength, light weight Waterproof bond = water resistance High Face/Edge screwholding Very low formaldehyde: meets CARB 	<ul style="list-style-type: none"> Economical, uniform smooth surface for high quality paints Superior surface & life High strength, light weight Waterproof bond = water resistance High Face/Edge screwholding Very low formaldehyde: meets CARB 	<ul style="list-style-type: none"> Economical, standard MDO panel Easily painted Durable surface High strength, light weight Waterproof bond = water resistance High Face/Edge screwholding Very low formaldehyde: meets CARB 							
Applications	<ul style="list-style-type: none"> Exterior signage with reflective films or paint. Pallets, bins, totes, crates & reels & tank stock. Pattern & die stock: Marine components: Military tables & cases. Slides, chutes, decks & conveyor plates. Industrial doors, ducts, hoods & barricades. 	<ul style="list-style-type: none"> Vinyl, digital print and painted signs for longer duration applications. Furniture, cabinets, displays & fixtures, shelving & partitions. Truck body & trailer liners/doors. 	<ul style="list-style-type: none"> Vinyl letter, digital print and painted signs for the quick sign industry. Furniture, cabinets, displays & fixtures. Shelving & partitions. Truck body & trailer liners/doors. 	<ul style="list-style-type: none"> Exterior letters, signage & bill boards Cabinet, display, fixture, shelving and workbench tops Pallets, bins, totes, crates & reels Agricultural & industrial wall lining: soffit & fascia, noise barrier Truck body & trailer liners & doors and boat seats Theatre/ movie set scenery 	<ul style="list-style-type: none"> Exterior signage & bill boards Furniture, cabinets, displays, fixtures, shelving & partitions Soffit, fascia & trim: sports sideboards Truck body & trailer liners/doors 	<ul style="list-style-type: none"> Exterior signage & bill boards Cabinet, display, fixture, shelving and workbench tops Pallets, bins, totes, crates & reels Agricultural & industrial wall lining: soffit & fascia, noise barrier Truck body & trailer liners & doors and boat seats Theatre/ movie set scenery 	<ul style="list-style-type: none"> Exterior signage & bill boards Cabinet, display, fixture, shelving and workbench tops Pallets, bins, totes, crates & reels Agricultural & industrial wall lining: soffit & fascia, noise barrier Truck body & trailer liners & doors and boat seats Theatre/ movie set scenery 							
Glue Bond	Waterproof glue bond	Waterproof glue bond	Waterproof glue bond	Waterproof glue bond	Waterproof glue bond	Waterproof glue bond	Waterproof glue bond							
Working Faces	2 faces only	1 or 2 faces 1 face with MDO or primed back	1 or 2 faces 1 face with MDO or primed back	2 faces only	1 or 2 faces 1 face with MDO back	1 or 2 faces 1 face w/no back or optional backer	4': 2 face or 1 face - no back; 5': 1 face - no back only							
Colors and Surface Finishes	Colors: Natural (buff) & Black; Buff & Black require prep	Color: White, High Gloss Gloss: reflectance of 75 to 85	Color: White, Satin Gloss Gloss: reflectance of 25 to 35	Unfinished Kraft paper Prime before over coating	Color: off white primer	Unfinished Kraft paper Prime before over coating	Unfinished Kraft paper Prime before over coating							
Working Edges	Factory sawn, unfinished All edges must be sealed	Factory sawn & painted to match face All edges must be sealed	Factory sawn & primed All edges must be sealed	Factory sawn, unfinished All edges must be sealed	Factory primed All edges must be sealed	Factory sawn, unfinished All edges must be sealed	Factory sawn, unfinished All edges must be sealed							
Product Size Specifications														
• Thicknesses	3/8", 1/2", 5/8", 3/4" & 1"	3/8" (5 ply), 1/2", 5/8" & 3/4"	1/2" only	3/8", 1/2", 5/8" & 3/4"	5/16", 3/8", 1/2", 5/8", 3/4" & 1-1/8"	5/16", 3/8", 1/2", 5/8", 3/4" & 1-1/8"	5/16", 3/8", 1/2", 5/8", 3/4", 1-1/8", 1-1/4" & 1-1/2"							
• Widths/Lengths	4' X 8' & 10' (10' w/D fir only)	4' X 8' & 10'	4' X 8' & 10'	4' X 8'	4' X 8' & 10'	4' X 8' & 10'	4' & 5' X 8' & 10'							
Physical Properties per ANSI 208.1¹	3/8" to 1/2"	5/8" to 1"	3/8" to 1/2"	5/8" to 3/4"	1/2"	3/8" to 1/2"	5/8" to 3/4"	3/8" to 1/2"	5/8" to 1-1/8"	3/8" to 1/2"	5/8" to 1-1/8"	3/8" to 1/2"	5/8" to 1-1/8"	
• Modulus of Rupture	6,900 psi	6,800 psi	6,670 psi	6,860 psi	6,860 psi	6,905 psi	7,544 psi	6,670 psi	6,860 psi	6,670 psi	6,860 psi	6,670 psi	6,860 psi	
• Modulus of Elasticity	846,890 psi	892,720 psi	795,050 psi	853,565 psi	853,565 psi	846,890 psi	879,603 psi	795,050 psi	853,565 psi	795,050 psi	853,565 psi	795,050 psi	853,565 psi	
• Lineal Expansion	.045%	.056%	.057%	0.050%	0.050%	0.045%	0.042%	.057%	0.050%	.057%	0.050%	.057%	0.050%	
• Thickness Swell	3.4%	3.4%	3.8%	3.8%	3.8%	3.4%	3.4%	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%	
• Water Absorption (24 Hours)	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
• Internal Bond	173 psi	185 psi	180 psi	134 psi	134 psi	173 psi	206 psi	180 psi	134 psi	180 psi	134 psi	180 psi	134 psi	
• Shelf Stiffness EI ASTM D-3043 C	68,280 lb-in ² /ft ³	602,180 lb-in ² /ft ³	Not Applicable		Not Applicable	68,280 lb-in ² /ft ³	322,465 lb-in ² /ft ³	74,770 lb-in ² /ft ³	606,720 lb-in ² /ft ³	74,770 lb-in ² /ft ³	606,720 lb-in ² /ft ³	74,770 lb-in ² /ft ³	606,720 lb-in ² /ft ³	
• Shelf Bending FBS ASTM D-3043 C	1,625 lb-in/ft ³	6,420 lb-in/ft ³	Not Applicable		Not Applicable	1,625 lb-in/ft ³	4,785 lb-in/ft ³	1,615 lb-in/ft ³	6,460 lb-in/ft ³	1,615 lb-in/ft ³	6,460 lb-in/ft ³	1,615 lb-in/ft ³	6,460 lb-in/ft ³	
• Face Screwholding	414 lbs	432 lbs	430 lbs	449 lbs	449 lbs	414 lbs	454 lbs	430 lbs	449 lbs	430 lbs	449 lbs	430 lbs	449 lbs	
• Edge Screwholding	Not Applicable	418 lbs	Not Applicable	408 lbs	408 lbs	Not Applicable	422 lbs	Not Applicable	408 lbs	Not Applicable	408 lbs	Not Applicable	408 lbs	
• Moisture Content ASTM D-1037	6-9%	6-9%	6-9%	6-9%	6-9%	6-9%	6-9%	6-9%	6-9%	6-9%	6-9%	6-9%	6-9%	
• Specific Gravity	.572	.592	.592	.527	.527	.572	.592	.592	.527	.592	.527	.592	.527	
• Density	35.6 lbs/ft ³	36.9 lbs/ft ³	36.9 lbs/ft ³	32.9 lbs/ft ³	32.9 lbs/ft ³	35.6 lbs/ft ³	36.9 lbs/ft ³	36.9 lbs/ft ³	32.9 lbs/ft ³	36.9 lbs/ft ³	32.9 lbs/ft ³	36.9 lbs/ft ³	32.9 lbs/ft ³	
• Flame Spread ² ASTM E-84	76 - 200 ³	76 - 200 ³	76 - 2006	76 - 2006	76 - 2006	76 - 2006	76 - 2006	76 - 2006	76 - 2006	76 - 2006	76 - 2006	76 - 2006	76 - 2006	
• Smoke Developed ASTM E-84	25 - 270 ³	25 - 270 ³	25 - 2706	25 - 2706	25 - 2706	25 - 2706	25 - 2706	25 - 2706	25 - 2706	25 - 2706	25 - 2706	25 - 2706	25 - 2706	
• Flame/Smoke spread rating E-84	Class C		Class C		Class C		Class C		Class C		Class C		Class C	
• Formaldehyde (Large Chamber)	< 0.01 Parts/million		0.0 Parts/million		0.0 Parts/million		< 0.01 Parts/million		0.08 Parts/million		< 0.01 Parts/million		< 0.01 Parts/million	
Panel Tolerances⁴														
• Thickness Tolerance	3/8" to 3/4" = +/- 1/32"		3/8" to 3/4" = +/- 1/32" (.031")		3/8" to 3/4" = +/- 1/32" (.031")		3/8" to 3/4" = +/- 1/64" (.016")		3/8" to 3/4" = +/- 1/32" (.031")		3/8" to 3/4" = +/- 1/32" (.031")		3/8" to 3/4" = +/- 1/32" (.031")	
• Length/width Tolerance	13/16" & greater = +/- 5%		13/16" & greater = +/- 5%		13/16" & greater = +/- 5%		13/16" & greater = +/- 5%		13/16" & greater = +/- 5%		13/16" & greater = +/- 5%		13/16" & greater = +/- 5%	
• Squareness	+0, -1/16" (.062")		+0, -1/16" (.062")		+0, -1/16" (.062")		+0, -1/16" (.062")		+0, -1/16" (.062")		+0, -1/16" (.062")		+0, -1/16" (.062")	
• Straightness	1/16" (.062")		1/16" (.062")		1/16" (.062")		1/16" (.062")		1/16" (.062")		1/16" (.062")		1/16" (.062")	

¹ Panel Average.. Product averages vary for individual thicknesses, consult sales or technical staff for exact properties

² Properties based on ANSI 208.1 test results

³ Properties based on engineering calculations

⁴ All tolerances apply at time of manufacture

⁵ Flame and Smoke spread properties based on engineering calculations