PLAINTIFF'S EXHIBIT WH-213

B. MICARTA FINISHES (Continued)

DECORATIVE MICARTA OIL RUB FINISH

Specific Advantages:

1. A surface that resists scuffs, scratches, rub marks, etc., does not show the normal abuse that would be evident on a gloss or satin laminate.

2. The laminate does not show finger marks or hand prints like other lo-glare or textured materials.

3. The clarity of the grain is improved so that better transparency is obtained giving a sharp, clear print.

4. The material should not be washed, but cleaned with a liquid furniture polish such as Johnson's Pride or Jubilee Cleaner. Use same procedure for cleaning as used on finished wood furniture.

5. If washed the oiled appearance can be regained by applying standard liquid furniture polish.

6. Has same surface characteristics as satin finish Decorative MICARTA in relation to staining, abrasion and cigarette resistance, light stability, etc.

Construction Details:

The oil rub MICARTA will be furnished without the oil applied. At present, it appears best in dark wood prints such as 93M18, 93M36, 93M40 and 96M23.

The oil rub MICARTA can be processed according to standard fabrication techniques. After the MICARTA has been fabricated, the surface of the MICARTA is oil rubbed by one of the following methods:

Method No. 1 - Apply a liberal solution of W BT-3623 to a soft cloth and rub the surface of the MICARTA until it has been thoroughly wetted. Use a dry, soft cloth to rub excess oil from the surface to achieve a uniform finish.

Method No. 2 - Mix a solution of 25 parts mineral oil and 75 parts toluene by weight. Apply to the surface of the MICARTA with soft cloth and rub until surface is thoroughly wetted. Remove excess by rubbing surface with cloth slightly wetted with toluene. Then rub dry with soft cloth.

Method No. 3 - Corn oil, olive oil, or even light, pure machine oil applied in a manner similar to method No. 1 to achieve the same oil rubbed effect.

DATA DOCUMENT PRODUCED BY THE MISSISSIPPI CASINO GAMING HOUSE PURSUANT TO COURT ORDER

MICARTA

DATE: November 1, 1965 SECTION: SM-116 Page 4A

SUBJECT: MICARTA PLASTIC LAMINATE

Pertinent Physical Properties:

The following are typical test results on Oil Rubbed Decorative MICARTA:

Decorative MICARTA	Method	NEMA Standard	MICARTA Results
1. Method of Test for Resistance of Surface to Boiling Water.	LD 1-2.02	No Effect	No Effect
2. Method of Test for Surface to High Temperature.	LD 1-2.03	Slight Dulling	No Effect
3. Method of Test for Resistance of Surface to stain.	LD 1-2.05		
Reagents 1-20		No Effect	No Effect
Reagents 21-29		Superficial Stain	Superficial Stain
4. Method of Test for Resistance of Surface to Light.	LD 1-2.06	Slight Change	Slight Change
5. Method of Test for Immersion in Boiling Water.	LD 1-257		
Weight Increase		2-10%	4.78
Thickness Increase		2-10%	5.91
6. Method of Test for Resistance of Surface to Cigarette Burns.	LD 1-2.04	110 Seconds	120 Seconds
7. Method of Test for Resistance of Surface to Wear.	LD 1-2.01	400 Cycle-Rate of wear - .08 grams per 100 cycles	603 Cycle-Rate of wear - 053 grams per 100 cycles

DATED DOCUMENTS PRODUCED COUNTY CASES 3/18/92

How to Specify:

"C" will be designation for oil rub - For instance 93M18 YCR specifies Imperial Walnut Oil Rubbed Finish in 1/16" thickness.

COMPARATIVE TESTS - MICARTA VS. COMPETITIVE PLASTICS

Materials evaluated in accordance with [illegible] Property - NEMA Test

	LP2-2.01 Wear Resistance, Wear Value, Cycles/Mils. Rate of Wear g/100 Cy.	LP2-2.02 Boiling Water Resistance	LP2-2.03 High Temperature Resistance***	LP2-2.04 Cigarette Burn Resistance, Sec.	LP2-2.05 Stain Resistance, Reagent 1-20	LP2-2.06 Color Fastness**
1/16" General Purpose NEMA Standards	400 .08	No Effect	No Spalling	110 Minimum	No Effect	Slight Change
(Typical Values) 1/16" Micarta	643 .056	No Effect	Slight Spalling	119	No Effect	Slight None
(Typical Values) 1/32" Micarta	430 .05	No Effect	Slight Spalling	160*	No Effect	Superficial Stains	Slight None
A - Lo Pressure 1/32" Polyester Sheet, #1	754* .139	R-W	R-W	168*	Cov-uncov U U	Cov-uncov S S	1 2 3 C E D
B - Vinyl, Horizontal Type	535* .025	B-W-R	B-W-R	84*	Cov-uncov U U	Cov-uncov S S	1 2 3 O W D
C - Vinyl, Vertical Type	447* .024	B-W-R	B-W-R	84*	Cov-uncov U U	Cov-uncov S S	1 2 3 O E D
D - Polyester Film	1183* .027	B-W-R	B-W-R	12*	Cov-uncov U U	Cov-uncov S S	1 2 3 O O O
E - Lo Pressure Polyester Surfaced Board	301* .118	W-R	W-R	78*	Cov-uncov U U	Cov-uncov S S	1 2 3 O S D
F - Melamine Faced Board	550 .04	W-R	W-R	513*	Cov-uncov U U	Cov-uncov S S	1 2 3 O O O
G - Lo Pressure 1/32" Polyester Sheet, #2	1[illegible] .34	B-W-R-D	D-W-R	37*	Cov-Uncov U U	Cov-Uncov S S	1 2 3 O O O

* Average values of test specimens

* Key to Letters
U - Unaffected
B - Surface Blistered
W - Surface Warped
R - Ring from Cup
D - Surface Gloss Dulled

Cov - covered
Uncov - uncovered
U - Unaffected
S - Superficial
C - Considerable

**1 - Change in Surface
O - No Change
C - Surface Crazed
2 - Character of Color Change
O - No Change
D - Appears Darker
L - Appears Lighter

3 Color Change
O - No Change
S - Slight Change
M - Moderate *
E - Extreme *

PRODUCED BY MISSISSIPPI - SCORDATO
DALLAS DOCUMENTS WEB
PRODUCED BY MISSISSIPPI - SCORDATO
CENSORED
3/18/24

DOCUMENTS PRODUCED
DALLAS COUNTY CASES 3/18/92

C. MICARTA PRODUCTS

Westinghouse is the pioneer in plastic laminates and for many years held the basic patents. MICARTA is the original high pressure laminate panel and has consistently introduced technological innovations to the entire industry, some inspired or required by our U.S.Plywood sales efforts. Among MICARTA's "firsts" are:

Universal Grade MICARTA - exclusive post-forming material
Aluminum MICARTA - exclusive plastic molded to aluminum
Fire Resistant MICARTA - exclusive U.L. tested and labeled.
1/32" MICARTA - exclusive post-formable to 3/8" radius
Low Glare Finish MICARTA - exclusive low reflecting texture.

1. General Purpose 1/16" MICARTA - the standard of the industry for all flat applications, horizontal or vertical. Meets or exceeds N.E.M.A. standards.

2. Universal Grade .050" MICARTA - post-forms, when properly heated, to 3/4" outside radius, and 1/2" outside radius, with no crazing. Can be used in place of 1/16" material for flat application. Meets or exceeds N.E.M.A. standards except for thickness.

3. 1/32" Vertical Surface MICARTA - actually a Universal type laminate. Postforms, under proper heating, to 3/8" radius. As edge banding can be bent to 3" minimum radius in cold applications. Developed originally to meet low pressure laminate competition. 1/32" MICARTA has proved more versatile, more durable (see comparison chart attached) Meets N.E.M.A. standards except for thickness and cigarette resistance. Being thinner, its impact strength is less than that of 1/16". It can be used for horizontal surfacing where only limited resistance to wear is required, but is not recommended for this application. Again, being thinner, 1/32" material must be carefully bonded to a smooth core stock to reduce telegraphing of core through the laminate.

Comparison, Vert. Surf. Material:	MICARTA 1/32"
Wear Value	430 cycles
Rate of Wear	.050 gms.
Cold forming	Min. 3" radius
Heat formed	Min. 3/8" radius
Cigarette Resistance	50 seconds

4. Cigarette-proof MICARTA - 1/16" MICARTA with aluminum foil embedded to disperse heat. Increases resistance to cigarette burns and blisters Specified as Type 2 under Military Specification MIL T-17717A and by GSA under LP-508c.

PRODUCED BY WESTINGHOUSE IN ACCORDING TO BUILDING PRODUCTS REGISTRY

5. 5/32" MICARTABOARD - Developed especially for manufacturers of economy type occasional tables and as vertical surfaces of low-end chests and cabinets MICARTABOARD is made in all colors and woodgrains of melamine plastic overlaid on hardboard, underside sanded and exposed for gluing to wood core or furniture frame. Available in 4'x8' sheets. Other sizes being developed or can be negotiated. Meets all N.E M A standards for Plastic Hardboard.

6. Solid MICARTA - Standard MICARTA built up to 1/8" thickness, stocked in 4'x8' panels in three popular colors for kick plates, armor plates, push plates, etc. Colors: Black, Grey, Chocolate Brown. Available in other colors and patterns on special order. Can be built up to maximum thickness of 1/4".

7. 7/8" and 1¼" Factory Glued Panels - MICARTA plant has full facilities for cold bond pressing of MICARTA to plywood. Novoply or other specified core panels. Conveniently located within quick delivery distance of our South Boston Novoply plant. Hampton can cut-to-size and edge-band tops All glued panels are balanced by backing sheet for maximum stability.

8. Backing Sheets - Available either .020 or .045 thick in standard sizes for fabricators doing their own bonding to core stocks. Also available on negotiation, in .050", 1/16th" and 1/32" as cabinet liner in approximate solid color matches to face material, if required.

9. Aluminum MICARTA - developed originally for the transportation industry (Budd Co., Phila.) for railway car interiors, its applications have since expanded. One new volume application is for car wash units (car laundries) where it has been found to be more easily maintained and more durable than other surfaces. MICARTA is molded directly to aluminum in specified sizes. Gauges of aluminum used are .025", .081". This product is made only to specification and all prices are negotiated. Finished thickness is .040 and .0976.

10. FIRE RESISTANT MICARTA - Lowest industry rating for flame spread fuel contribution. smoke developed - Tested and Labeled by UNDERWRITERS' LABORATORIES.

Material is 050" (1/20th") Asbestos MICARTA - exclusive and patented. Will not support combustion once flame source has been removed. Except for core construction and thickness, its fabricating characteristics are the same as 1/16th". Available in all standard finishes and all sizes to 48" x 144". Wher volume warrants, can be made to 60" width, upon negotiation.

DOCUMENTS PRODUCED BALLAS COUNTY CASE 3/13/96

Rating for Fire Hazard Classification - by U.L.

	Red Oak Standard	Fire Resistant MICARTA Unsupported .050	Fire Resistant MICARTA on Non-Combustible Core	Stand 1/16	Formica Firebreak
Flame Spread	100	30	15	320-348	70
Fuel Contributed	100	15	15	41-117	25
Smoke Density	100	10	5	198-258	Over 200

.050" Fire Resistant MICARTA, unsupported sheets, are shipped with U.L. Label from Hampton plant. Bonded to non-combustible core the U.L. Label includes U.S. Plywood Corp. as source of material since the fabricating and shipping is done through Setter Brothers.

Where standard decorative laminates are not allowed in applications governed by municipal building codes, Fire Resistant MICARTA is generally acceptable.

11. MICARTA MURALS & MAINTENANCE-FREE DECORATIVE ART (Handled entirely through Industrial Products Sales Division, U.S. Plywood Corp., U.S. Plywood Bldg., New York)

MICARTA can be hand-painted or silk screened in almost infinite variety to provide unusual customized decorative effects. Colors are virtually unlimited and fully protected by transparent melamine plastic surface.

a. Silk-screening - For multiple reproduction of corporate or organization insignia, trade-marks, logo-types or other special designs. Practical where quantity repeats of same art are required. Any standard color or pattern of MICARTA can be furnished with silk-screened decoration.

b. Hand-painting - Where individuality is desired - murals, paintings portraits, decorative maps, etc. - reproduced in exact detail and scale from customer's furnished art work, or from our original design conceived from customer's instructions Size is unlimited since mural can be accomplished in sections for assembly on job site from full scale drawings. Direct inquiries to: Industrial Products Sales Division.

12. WELDWOOD CUSTOM ROYAL DOORS - Designed for interior use and bonded with MICARTA faces. Custom Royal Doors include Stay-Strata, Solid Core, Staved Lumber Core and Hollow Core Doors, with or without lights. All cut outs must have a 1/4" radius. See NEMA Fabrication Methods for additional information.

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DELTA DOCUMENTS
PROPRIETARY INFORMATION
SUBMISSION ORDINANCE
22 MAY 93

MICARTA

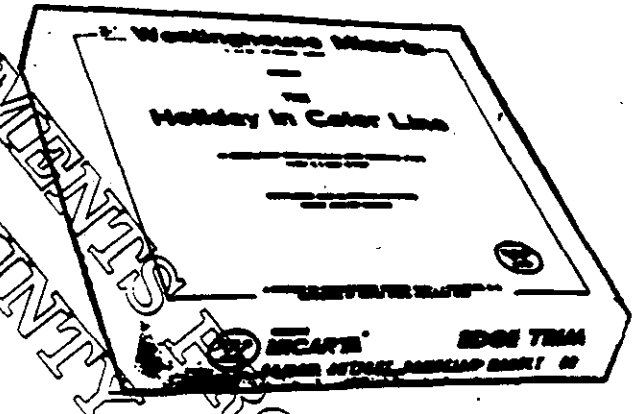
DATE: November 1, 1965

SECTION: SM-116 Page 8
PRODUCT: MICARTA PLASTIC LAMINATE

13. WESTINGHOUSE MICARTA EDGE TRIM

Here is a new MICARTA item which will help you sell more standard MICARTA and Weldwood products to your building supply dealer customer

Combined with standard MICARTA sheets, Weldwood cores and Weldwood glue these convenient prefabricated 1/32" edge band strips 1-5/8" wide and 12' long make a complete package for your dealers to offer the custom cabinet shop, small fabricator, builders who construct their counters on the job site, as well as the do-it-yourself trade.



D. MICARTA PANEL SIZES

All Standard Line colors and patterns are available in the following standard factory sizes:

60 x 144"	48" x 144"	36" x 144"	30" x 144"	24" x 144"
120	120	120	120	120
	96	96	96	96
	84	84	84	84
	72	72	72	72
	60	60	60	60

Cut-to-Size facilities are available at Hampton and with the new 60" width sheet, yields are more economical and more competitive than in the past. Normal tolerances are plus or minus 1/32". If a more liberal tolerance is permitted, your order should so note. This would facilitate production and expedite completion of order. Customer is charged book price of next larger standard factory size panel...no charge for cutting

DOCUMENTS PRODUCED
DALLAS COUNTY CASES 3/13/92

MICARTA GRADE NUMBER REFERENCE LIST

MARCH, 1966

DALLAS DOCUMENT WAREHOUSE
PRODUCED BY U.S. PLYWOOD
IN MISSISSIPPI
3/18/92

The attached lists 269 MICARTA patterns, colors and woodgrains. The list was compiled as a reference for U. S. Plywood personnel only and should not be distributed to specifiers and customers.

Normally paper is stocked to manufacture all of these grades; however, availability in stock, sizes, thicknesses and finishes should be checked with your Westinghouse representative or with Hampton.

Samples of any grade shown may be ordered in satin 3 x 3 and 5 x 8 chip sizes except architectural colors 91 series and architectural patterns 94 series. Samples of these available only in 3½ x 3½ boxed sets of satin or glossy finish. Use the standard US Plywood MICARTA order form.

Indexed below are normally stocked grades by U. S. Plywood MICARTA stocking depots. Many depots stock grades in addition to those shown so contact the depot for availability as to quantities, sizes, thicknesses and finishes.

A — Atlanta
B — Bronx
C — Chicago
F — Fort Worth
H — High Point
Ho — Houston
L — Little Rock
La — Los Angeles
Lo — Louisville
M — Miami
O — Oakland
P — Philadelphia
T — Tampa
Y — Youngstown

x Indicates availability in cross grain

DATE: August 15, 1966

SECTION: SM-116 Page 9A
PRODUCT: MICARTA PLASTIC LAMINATE

PATTERNS

80M01 Red Irish Linen H
80M02 Yellow Irish Linen H
80M04 Green Irish Linen F H P
80M07 Grey Irish Linen A B F H Ho L La Lo Mo P Y
80M08 Tan Irish Linen A B C F H Ho L La Lo M O P T Y
80M10 Blue Irish Linen
80M27 Grey Samoan Pearl B C F H Ho Lo Y
80M81 Pink Pompeian Marble A B F L La M O P Y
80M82 Antique Pompeian Marble A B C F Ho L La Lo M O P T Y
80M83 Aqua Pompeian Marble A B Lo M O P Y
80M86 Grey Pompeian Marble A B F H L Lo Lo M P Y
80M87 Charcoal Pompeian Marble M O
80M94 Green Leather
80M97 Grey Leather
80M98 Tan Leather
81M04 Grey Cathay A B H L La Lo M P T Y
81M05 Beige Cathay A B F H Ho La Lo M O P T Y
81M06 Aqua Cathay B Ho La M Y
81M07 Pink Cathay M
83M28 Navy Grey Linen
83M48 White Constellation A B C F H Ho L La Lo M O P Y
83M52 Aqua Constellation A B C F Ho M P
83M53 Blue Constellation M
83M54 Citron Yellow Constellation C M
83M56 Beige Constellation A B C F H La La M P Y
83M79 White Parisian Gold A B C F Ho La Lo M O P Y
83M80 Yellow Parisian Gold B C F Ho M T Y
83M82 Beige Parisian Gold A B C F H Ho La Lo M O P Y
83M83 Aqua Parisian Gold B C F Ho M
83M84 Vanilla Constellation B C
83M85 Pink Constellation B C M
83M87 French Vanilla Parisian Gold
83M88 Pink Parisian Gold M Y
83M89 Grey Scrim
83M90 Tan Scrim
83M91 Beige Finespun C H La Lo M O
83M92 Grey Scrim
84M03 Cortina Marble M
84M07 White Onyx M T
84M08 Tan Travertine
84M10 Beige Gold Leaf T
84M11 Yellow Finespun C H La M O T
84M12 Pink Finespun C Lo M O T
84M13 Aqua Finespun C Lo M O T
84M15 White Gold Leaf A C F H Ho Lo M O P T Y
84M16 Blue Finespun La M O T Y
84M17 Green Finespun La Lo O
84M18 Grey Canterbury
84M20 Tan Gold Leaf O
84M21 Gold Thread C F H Ho La Lo O Y
84M22 Gold Starburst F H Ho La Lo M T
84M23 Pumpkin Finespun A La M O
84M24 White Venetian Marble
84M25 Beige Venetian Marble O
84M27 Beige Canterbury
84M29 Grey Venetian Marble
84M30 Distressed Brush
84M31 Golden Web H T
84M35 Tan Venetian Marble
84M38 White Mellotone A M T
84M39 Beige Mellotone
84M47 White Nutritone F Lo T
84M48 White Lustre A F La M P T Y
84M50 White Venetian Marble
84M52 Greco Marble A M Y
84M61 Antique Brushtone
84M62 Marble Fantasy F O T
84M71 Newite Constellation
84M81 White Finespun A T

SOLID COLORS

90M02 Indian Coral B F H Ho
90M04 Seville Citron B L H Y
90M10 Concord Blue B C
90M13 Alpine White A B C F H Ho L La Lo O P T Y
90M14 Bermuda Sand B C F H L La P Y
90M15 Avon Grey
90M17 Brazilian Mocha C
90M20 Black A B C F H Ho La Lo O P
90M21 Chocolate Brown
90M52 Special Grey
90M61 Mist Aqua
90M62 Island Blue
90M63 Desert Beige
90M68 French Vanilla B B C H Y
90M69 Palmetto Green B H Ho
90M70 Aztec Tan Ho Lo O Y
90M71 Persian Pink
90M72 Peach
90M73 Tan
90M74 Colonial White A H Ho O
90M75 Beige Tan
90M80 Gold
90M87 White
90M88 Aqua
90M91 Aztec
90M92 White
90M93 White
90M96 Champagne A

WALNUTS

93M02 x Platinum Walnut C H T
93M17 Georgian Bay Walnut A B C H Ho L La Lo O P Y
93M18 x Imperial Walnut A B C H Ho L La Lo O P T Y
93M21 x Brown Pickled Walnut
93M25 x Danish Walnut L T
93M27 x Sunset Bay Walnut B La Lo O P Y

DATA DOCUMENTS PRODUCED IN THE COUNTY CASES 11-62

DATE: August 15, 1966

SECTION: SM-116 Page 10
PRODUCT: MICARTA PLASTIC LAMINATE

93M28 Mocha Walnut
93M30 x Grey Kashmire Walnut
93M31 American Walnut
93M33 Sliced Walnut
93M34 Brown Kashmir Walnut
93M36 Laurel Ridge Walnut B C La Lo P Y
93M37 Sno Cap Walnut B H La O P
93M39 Champlain Natural Walnut C Lo Y
93M40 Regal Natural Walnut C La Lo O
93M41 Natural Walnut Ho La O Y
93M43 Mohawk Walnut
93M48 x Regal Walnut
93M49 Sliced Walnut
93M50 x Sliced Walnut
93M51 Hampton Walnut A Ho La O
93M53 x Sliced Walnut
93M54 x White Walnut
93M57 Distressed Hampton Walnut
93M59 Hampton Walnut
93M61 American Walnut
93M63 Orchard Walnut

93M68 x American Walnut
93M69 Gunstock Walnut A T
93M70 x Black Walnut
93M73 Hampton Walnut
93M77 Regal Walnut
93M84 Wainwright Walnut
93M86 Modern Walnut
93M89 Hampton Walnut
93M91 Russet Sliced Walnut
93M97 Stoney Walnut
97M05 x White Empire Walnut
97M06 Valley Walnut
97M07 Westminster Walnut
97M08 Waverly Walnut
97M09 Mountain Walnut
97M16 Whitney Walnut
97M19 Sun Walnut
97M20 Highland Walnut
97M21 Mason Walnut
97M22 Scandia Walnut

MAHOGANY

94M14 Gold Coast Mahogany
94M15 Goldcoast Mahogany

94M19 Seafoam Mahogany

OAK

95M03 Tan Grey Oak
95M08 Flake Oak
95M11 Ranch Oak
95M14 Oak
95M15 Oak

95M17 Ranch Oak
95M21 Planked Oak
95M29 Scrub Oak
95M38 Orchard Oak

MAPLE

96M01 x Adirondack Maple
96M18 Glacier Maple L
96M19 Cape Cod Maple L La P
96M34 x Plank Rock Maple Ho
96M35 Maple
96M41 Hampshire Maple
96M43 Maple
96M48 Maple
96M66 Planked Rock Maple

96M71 Maple
96M79 x Planked Rock Maple
96M81 Planked Rock Maple
98M11 Kingston Maple
98M12 Middlesex Maple
98M18 Claremont Maple
98M20 Honey Maple
98M37 Silver Maple

BIRCH

96M02 x Seneca Birch B Ho L La Lo O P
96M25 x Pickled Birch

96M26 Tan Birch
96M89 Tan Pickled Birch

CHERRY

96M15 x Mt. Vernon Cherry B C H La P T
96M58 Distressed Cherry
96M59 Cherrywood
96M77 Washington Cherry
97M11 Imperial Cherry T

97M12 Dark Imperial Cherry
98M03 Plank Cherry
98M10 Cherry Cascade
98M21 Cherry

PRODUCED BY WESTINGHOUSE
IN MISSISSIPPI - SCOTT COUNTY
PRODUCED BY WESTINGHOUSE
IN MISSISSIPPI - SCOTT COUNTY
CASES 3/13/93

DATE: August 15, 1966

SECTION: SM-116 Page 10A
PRODUCT: MICARTA PLASTIC LAMINATE

TEAK

96M23	x Ceylon Teak	B C H La P T Y	96M40	White Teak
96M30	Danish Teak		96M70	Teak T
96M33	x Burma Teak			

ROSEWOOD

96M32	Rosewood	La	96M09	Bombay Rosewood A
96M37	x Rosewood			

MISCELLANEOUS WOODGRAINS

96M39	White Cypress (Replywood)		96M88	Old Pecan
96M44	Teak Corina		96M54	Carolina Pecan

ARCHITECTURAL SOLID COLORS

91M00	Pearl	2 ba	91M17	Dark Covert Gray	2 lh
91M01	Pearl Pink	3 ea	91M18	Oxford Gray	1
91M02	Pale Yellow	2 ea	91M19	Light Sky Blue	14 ea
91M03	Light Yellow	2 ea P	91M20	Horizon Blue	15 ga
91M04	Lemon Yellow	1 ea	91M21	Wedgewood Blue	14 gc
91M05	Squash Yellow	2 la	91M22	Sky Blue	13½ gs
91M06	Dusty Yellow	1½ ea	91M23	Caribbean Blue	15 la
91M07	Mistletoe Green	24½ ga	91M24	Capen Blue	13½ lc P
91M08	Mustard Tan	2 lg	91M25	Dark Blue	13½ pl P
91M09	Sage Green	24 li	91M26	Light Aqua	18 ea
91M10	Warm Gray	2 ml P	91M27	Mint Green	22 gc
91M11	Light Gray	c	91M28	Brite Turquoise	18 la
91M12	String	2 dc	91M29	Mint Leaf	22 lc
91M13	Covert Gray	2 la	91M30	Shell Pink	5 ca
91M14	Beige	3 ga	91M31	Orchid Mist	10 cb
91M15	Gray	e	91M32	Light Vermillion	8 ea
91M16	Gray	g	91M33	Poppy Red	6½ ga P

ARCHITECTURAL PATTERNS

86M00	Dusty Yellow Windows	86M21	Beige Geometrics
86M01	Mistletoe Green Windows	86M22	Covert Gray Geometrics
86M02	White Windows	86M23	Wedgewood Blue Geometrics
86M03	Gray Windows	86M24	Light Sky Blue Geometrics
86M04	Gray Windows	86M25	Horizon Blue Geometrics
86M05	Beige Windows	86M26	Light Aqua Geometrics
86M06	String Windows	86M30	Dusty Yellow Micro Mesh
86M07	Covert Gray Windows	86M31	Mistletoe Green Micro Mesh
86M08	Wedgewood Blue Windows	86M32	White Micro Mesh
86M09	Light Sky Blue Windows	86M33	Gray Micro Mesh
86M10	Horizon Blue Windows	86M34	Gray Micro Mesh
86M11	Light Aqua Windows	86M35	Beige Micro Mesh
86M15	Dusty Yellow Geometrics	86M36	String Micro Mesh
86M16	Mistletoe Green Geometrics	86M37	Covert Gray Micro Mesh
86M17	White Geometrics	86M38	Wedgewood Blue Micro Mesh
86M18	Gray Geometrics	86M39	Light Sky Blue Micro Mesh
86M19	Gray Geometrics	86M40	Horizon Blue Micro Mesh
86M20	Beige Geometrics	86M41	Light Aqua Micro Mesh

DOCUMENTS PRODUCED IN DALLAS COUNTY CASES

Special Colors, Patterns and Designs -- Negotiate every inquiry involving volume immediately and directly with Hampton. Westinghouse is equipped to produce special colors and patterns, to match closely, many competitive colors, patterns and woodgrains. In many instances, matching paper is in stock (see Competitive Patterns Chart following). (See E preceding).

Non-Standard Patterns and Woodgrains -- Westinghouse maintains in inventory at Hampton a wide variety of patterned and woodgrained paper in rolls of various widths. These have been accumulated through obsolescence, to fill special color or pattern requirements for volume customers and/or government, to match competitive laminates, etc. All branches receive copies of Westinghouse's "INDEX & CROSS REFERENCE TO CURRENT & NON-STANDARD MICARTA GRADES" for reference. This Index lists and details all non-standard material by Grade Number, Description, Paper Number, Comments & Application. Always refer to your Branch copy before requesting special samples from Hampton. If your special requirements are on the Index list, ordering by number will expedite receipt of samples and reduce correspondence. Hampton will advise you on whether Hampton has sufficient paper to meet your requirements since paper stocks fluctuate and are not re-ordered unless volume warrants the purchase.

Cross-Grain MICARTA - We have had frequent inquiries regarding the availability of cross-grain woodgrains in our standard line woodgrains. In answer to these inquiries, check Hampton for availability of cross grain.

No cross-grain cylinder available -- On some of these grades cylinders to print cross-grain could be made if volume of plastic is sufficient to have cylinder made and paper guaranteed.

93M17	Georgian Bay Walnut	93M39	Champlain Natural Walnut)
93M27	Laurel Ridge Walnut	93M40	Regal Natural Walnut)
93M37	Snow Cap Walnut	93M41	Natural Walnut)

An additional cylinder in cross-grain would take care of the 3 Natural Walnuts.

Underwriting Costs of Special Pattern Paper is the responsibility of the U/S) Plywood branch sponsoring the initial order. It involves a minimum order covering a 500 lb. roll for one year. If this quantity is not used in anticipated volume within the year, Hampton will bill the branch at cost for the unused balance of the roll. As an estimate, 500 lbs. of paper will make approximately 10,000 - 11,000 sq. ft. of finished laminate. Solid Color Papers must be ordered in a minimum quantity of 3,000 lb. rolls (approximately 60,000 sq. ft. of finished laminate.) Some paper manufacturers vary the minimum from 2,000 to 5,000 lbs. depending on color.

PRODUCTION DOCUMENT
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MIRROR IMAGE

MICARTA WEIGHT CHART

MICARTA WEIGHT CHART

THICKNESS		1/32"	1/16	0.50		1/4	.020	5/32	7/8	1-1/4	7/8
NAME		VERTICAL	STD.	POST F.	STD.	STD.	BACKS	MICAMP	NOVOPLY	PHL	PHL
LBS.PER SQ./FT.		.22	0.43	0.35	0.65	1.7	0.11	1.00	1.00	4.00	2.96
SIZE	SQ./FT.	WEIGHT PER SHEET									
24 X 96	16.0	3.5	6.9	5.6	13.6	27.2	1.8	16.0	17.1	65.3	47.4
30 X 60	12.5	2.8	5.4	4.4	20.0	21.3	1.4	12.5	13.5	51.0	37.0
30 X 72	15.0	3.3	6.5	5.3	12.0	25.5	1.7	15.0	16.2	61.2	44.4
30 X 84	17.5	3.9	7.5	6.2	14.9	29.8	1.9	17.5	18.9	71.4	51.8
30 X 96	20.0	4.4	8.6	7.0	17.0	34.0	2.2	20.0	21.6	81.6	59.2
30 X 120	25.0	5.5	10.8	8.8	21.3	42.5	2.8	25.0	27.0	102.0	74.0
36 X 60	15.0	3.3	6.5	5.2	12.8	25.5	1.7	15.0	16.2	61.2	44.4
36 X 72	18.0	4.0	7.7	6.3	15.3	30.6	2.0	18.0	19.4	73.4	53.3
36 X 84	21.0	4.6	9.0	7.4	17.9	37.6	2.3	21.0	22.7	85.7	62.2
36 X 96	24.0	5.3	10.3	8.4	20.4	40.8	2.6	24.0	25.9	97.9	71.0
36 X 120	30.0	6.6	12.9	10.5	25.5	51.0	3.3	30.0	32.4	122.4	88.8
48 X 72	24.0	5.3	10.3	8.4	20.4	40.8	2.6	24.0	25.9	97.9	71.0
48 X 84	28.0	6.2	12.0	9.8	23.8	47.6	3.1	28.0	30.2	114.2	82.9
48 X 96	32.0	7.0	13.8	11.2	27.2	54.4	3.5	32.0	34.6	130.6	94.7

DOCUMENTS PRODUCED
DALLAS COUNTY CASES 3/18/92

COMPETITIVE PATTERNS TO OUR MICARTA LINE

Key

X - None C - Close in Color D - Similar in Design S - Similar Design & Color I - Identical

MICARTA	FIONITE	FORMICA	TEXTOLITE	WILSON ART	CONSOWELD	PANELITE	LAMINART	NEVAMAR
LINEN								
80M01 - Red Linen	(I)6-LN-2	(D) 105	(C)-1102	(C)-1610	(C)A-14	(C)M-55	(C)-610	(C)NL-1
80M02 - Yellow Linen	(S) Linen	(D) 107	(S)-1104	(C)-1650	(C)A-16	(C)M52M	(C)-650	(C)NL-4
80M04 - Green Linen	(S)8-LN-2	(D) 106	(S)-1115	(C)-1680	(C)A-13	(C)M-53	(C)-640	(C)NL-5-1
80M07 - Grey Linen	(C) Linen	(D) 101	(S)-1101	(C)-1600	(C)A-12	(C)M-51	(C)-600	(C)NL-6-1
80M08 - Tan Linen	(S)4-LN-1	(D) 103	(C)-1119	(C)-1630	(C)A-15	(C)M-50K	(C)-830	(C)NL-2
80M27 - Grey Pearltone	(I)2-SPL-1	(S) 110	(S)-1201	(C)-1105	(C)B-12	(S)M-241		(S)M-6-1
80M81 - Pink Marble	(C) Onyx	(C) 792	(S)-2401		(C)F-14			(S)CM-1-1 (C)CM-2-2
80M82 - Antique Marble		(C) 793						
80M83 - Aqua Marble	(S) Onyx							(C)CM-6-1
80M86 - Grey Marble		(C) 791	(S)-2401		(C)F-12			(C)CM-6-2
80M87 - Charcoal Marble	(C) Gray Onyx							
83M48 - White Constellation	(I) Gold Dust	(C) 803	(C)-4500	(S)-2070	(I)K-19	(S)H-18H	(S)-715	(I)GL-7-1
83M52 - Aqua Constellation	(C) Gold Dust			(C)-2080	(C)K-23		(S)-719	(C)GL-3
83M53 - Blue Constellation	(C) Gold Dust		(S)-4706	(C)-2020	(C)K-21	(S)H-54C		(I)GL-3-2
83M54 - Yellow Constellation	(S) Gold Dust			(S)-2050	(C)K-26	(S)H-52C	(S)-717	(C)GL-4
83M55 - Beige Constellation	X			(S)-2030	(C)K-15	(S)H-50C	(S)-716	(C)GL-2-1
83M84 - French Vanilla Const.	X	X	X	X	X	X	X	X
83M85 - Persian Pink Constell.	(S)Gold Dust	(C) 804	X	(S)-2040	X	(S)H-56C	X	(S)GL-7-1
83M79 - White Parisian Gold	(S)Gold Spun		(S)-4700	(S)-1470		(S)M778H		(C)FL-7-1
83M80 - Yellow Parisian Gold	(S)Gold Spun		(C)-4704	(S)-1450		(S)M772H		(C)FL-4-1
83M82 - Beige Parisian Gold	(S)Gold Spun		(C)-4779	(S)-1430		(S)M776H		(C)FL-2-1
83M83 - Aqua Parisian Gold	(S)Gold Spun		(C)-4715	(S)-1480				(C)FL-3-2
83M87 - French Vanilla Gold	X	X	X	X	X	X		X
83M88 - Persian Pink Gold	X	X	(C)-4762	X	X	(C)M775H	X	(S)FL-1-1

PRODUCED IN THE DALLAS TESTING HOUSE
PRODUCED IN THE CORDINO
6/15/65

Competitive Decorator Colors to our MICARTA Line

I = Almost Identical D = Slightly Darker L = Slightly Lighter C = Close in Tone

MICARTA	Formica	Panelyte	Parkwood	Pionite	Textolite	Wilson Art
90M02 - Indian Coral	(D)-862					
90M03 - Flare Red		(I)-H-30				
90M04 - Seville Yellow	(C)-893	(I)-H-52	(I)-1030	(I)7-SOL-1 (C)7-SOL-2		
90M10 - Concord Blue	(C)-853	(I)-H-24				
90M13 - Alpine White			(C)-1019	(C)1-SOL-1	(I)-1450	
90M14 - Bermuda Sand	(I)-931	(I)-H-01	(I)-491 (D)-1038		(I)-1481	(L)-1503
90M15 - Avon Gray					(D)-1421	
90M17 - Brazilian Mocha	See 91M14	- Beige				
90M20 - Lamp Black	(I)-840	(I)-H-1	(I)-1000	(I)8-SOL-1	(I)-1410	(I)-1595
90M21 - Chocolate Brown		(C)-H-29	(I)-1029			
90M52 - Light Gray	(I)-956	(I)-H-21			(I)-1491	
90M55 - Ivory	(C)-931					
90M56 - Green			(L)-1010			
90M57 - Yellow		(C)-H-28	(C)-1016		(C)-1414	(C)-1551
90M61 - Mist Aqua	(I)-921	(I)-H-27		(C)9-SOL-2	(I)-1415	(I)-1580
90M62 - Island Blue	(I)-926 (C)-912		(C)-1043	(I)9-SOL-3	(C)-1426	
90M63 - Desert Beige	(I)-879	(I)-H-50			(I)-1479	(I)-1530 (C)-1503
90M68 - French Vanilla		(I)-H-28	(I)-1016		(C)-1414	(C)-1551
90M69 - Palmetto Green			(C)-1010			(I)-1581
90M70 - Aztec Tan	See 90M63	- Desert Beige				
90M71 - Persian Pink	(C)-976	(L)-H-25	(I)-1027		(C)-1472	(C)-1541
90M72 - Peach	(D)-862					
90M74 - Colonial White	(I)-932 (D)-925	(L)-H-18	(D)-1047 (L)-1034		(I)-1460	(I)-1572 (D)-1531
90M75 - Light Tan	See 90M63	Desert Beige				
90M77 - Light Pink	(I)-916	(C)-H-25	(C)-1027		(I)-1472	(C)-1541
90M78 - Lavender				(I)9-SOL-5	(I)-1496	
90M79 - Olive					(I)-1475	
90M80 - Light Gold	(L)-854 (C)-869		(C)-517		(I)-1424	
90M81 - Light Beige	See 90M63	Desert Beige				
90M82 - Pumpkin	(I)-872	(C)-H-93		(C)6-SOL-5	(I)- 3	(I)-1555
90M85 - Coral	(C)-865					
90M87 - White	(I)-949	(I)-H-18				(I)-1570
90M92 - White	See 90M87	- White				
90M94 - Gray	See 90M14	- Bermuda Sand				
90M95 - Champagne	(I)-925		(I)-1047		(I)-1469	(C)-1531
91M00 - Pearl			(C)-1042		(C)-1469	(C)-1503
91M02 - Pale Yellow					(I)-1414	(I)-1551
91M03 - Light Yellow	(I)-893					
91M04 - Lemon Yellow	(C)-864					
91M06 - Dusty Yellow			(C)-1044			
91M07 - Mistletoe Green			(C)-1045		(C)-1475	
91M08 - Mustard Tan	(L)-855		(C)-1037			
91M10 - Warm Gray	(C)-852		(L)-1041			
91M12 - String	(D)-861					(L)-1503
91M14 - Beige	(C)-886		(L)-447		(D)-1478 (L)-1449	(C)-1537
91M15 - Gray			(D)-1025		(I)-1421	
91M16 - Gray			(L)-1025			
91M18 - Oxford Gray	(L)-963			(I)2-SOL-3		
91M19 - Lt. Sky Blue	(C)-933				(C)-1426	
91M21 - Wedgewood Blue		(D)-H-24			(D)-1436	
91M24 - Copen Blue			(D)-1032		(D)-1456	
91M27 - Mint Green	(L)-913				(D)-1465	
91M28 - Bright Turquoise	(I)-859					
91M31 - Orchid Mist				(C)9-SOL-5	(D)-1496	
91M32 - Lt. Vermillion	(D)-874 (L)-871					
91M33 - Poppy Red	(I)-876		(I)-1031		(I)-1412	(I)-1511

LAMINATE COMPETITIVE PRODUCED CASES 3/18/92

MICARTA

DATE: November 1, 1965 SECTION: SM-116 Page 15

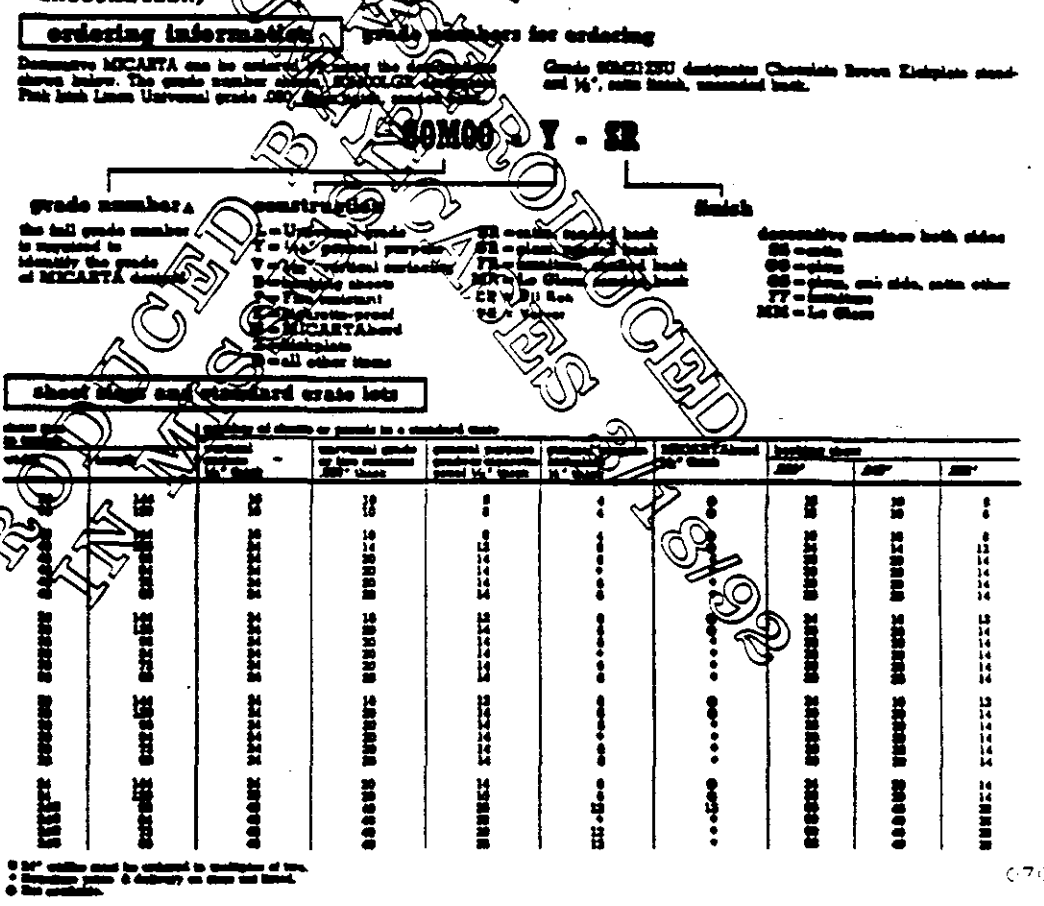
PRODUCT: MICARTA PLASTIC LAMINATE

F. OEM CUSTOMERS now being sold at prices other than shown on our current price list (#66-028, effective May 1, 1962) may continue at the prices established for them and remain eligible for volume concessions as long as their business warrants.

The Westinghouse - U. S. Plywood OEM policy as of May 1, 1962 states that any new volume prospects requiring price or service consideration other than shown on Price List #66-028 (5/1/62) are to be negotiated with the Decorative MICARTA Division on their individual merits. All previous bulletins and references to this subject are cancelled. In all correspondence refer to these volume prospects as KEY NEGOTIATION PROSPECTS and maintain your files accordingly.

It is suggested that all KEY NEGOTIATION PROSPECTS be reviewed monthly and their progress reports be forwarded to U. S. Plywood Division Managers and Westinghouse Zone Managers so suitable assistance can be provided in directing Branch and Westinghouse field sales efforts.

G. ORDERING INFORMATION (Refer to current Price List for detailed information)



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H. FABRICATION OF DECORATIVE PLASTICS

Decorative MICARTA either in sheet form or bonded to core material can be fabricated with conventional woodworking hand tools and with larger quantities woodworking power tools will do an adequate job. However, with repeated or continued use conventional woodworking saws, drill bits, shaper blades, router bits are quickly dulled and require repeated sharpening to maintain the best workmanship. For continuous volume activity it is pretty well recognized by any and all fabricators, from cabinet shops to mobile home manufacturers to desk top manufacturers, that carbide tip equipment is a must for volume fabrication of plastic laminates. Most often fabricators adapt woodworking equipment with carbide tools for plastic fabricating but more and more tool companies are manufacturing tools with the laminate industry in mind. It is real interesting to see what ingenuity some of these fabricators have and the tools they develop to do a specific job or how they will imitate a high price tool with local equipment.

The Bechtold Postforming and Rollomatic machines are specialized machines that are not only designed specifically for forming of plastic but also do an automatic job of shoping and trimming of the finished boards for sink decks and cabinet doors. These machines are very influential in the kitche cabinet fabrication business. Also, contact glue spray equipment and the introduction of rotary presses for contact gluing are relatively new tools that have put new impetus to the fabrication of plastic laminates.

Aside from using proper equipment, tools and have skilled craftsmen there are some specific do's and don't of plastic fabrication that have developed from technical calls.

1. Don't make cut-outs in panels leaving square corners or rough edges. Every and any cut out should have at least a 1/8" diameter radius in the corners and edges smooth. Any sharp corner or rough edge can be the starting point for stress crack.

2. Nails or screws should not be nailed or driven directly in and through laminates. Such stresses particularly in contact glued laminates, can cause hairline cracks. Holes should be predrilled oversize to relieve any stresses that could be created by screws, etc. It just isn't good practice to drive nails into laminates.

3. Decorative high pressure laminates should be handled with care in the shop. Careless handling, bruising the back of the sheet against a sharp object or dragging sheets can cause hairline breaks in the face. MICARTA sheets have low impact strength from the back surface. Such "star" cracks do not show until the laminate is bonded.

DOCUMENTS PRODUCED IN CASE 3/13/92

H. FABRICATION OF DECORATIVE PLASTICS (Cont'd)

4. Cracks can also occur in gluing operations. Both in cold setting glue operations and contact glue operations it is essential to keep cores trash and chip free. Bits of trash in the glue line will break through the surface under pressure and cause cracks and reject the sheet.

5. Good fabrication requires a uniform glue spread. Uneven glue spread or lack of bond can be the cause of uneven stresses and contribute to cracking of sheets.

6. Inadequate drying of glue prior to fabrication can contribute to poor fabrication. This is particularly true with the formed edge of sink and cabinet door blanks on a Bechtold Rollomatic. If contact glue is not adequately bonded after forming, the laminate will rupture and crack when the material is trimmed at the shaper. Additional drying of the contact glue or an additional coating of contact will cure this in most cases.

7. Plastic should be cut so the saw cuts down into the laminate. Sawing up through the laminate will cause rough chipped edges.

8. Sharp saws will always leave an edge smoother and chip free. On some woodgrain laminates with tinted overlays a poor sawing job will expose the lighter print surface. Shapers will produce a smooth edge and this operation is recommended but usually fabricators use saws only.

9. MICARTA should be drilled only when firmly supported and drilled from the face in. Holes drilled should always be slightly larger than the insert or screw being inserted.

10. Good practice to be familiar with the NEMA fabricating recommendations LP 2-701-7.0 included.

I. BONDING OF DECORATIVE LAMINATES

Generally, adhesives used for the woodworking and plywood manufacturing can also be used for the bonding of Decorative MICARTA to wood substrates whether they be plywood, veneered lumber cores, composition borads, chip cores and hardboard cores. The adhesives that are available for this purpose are urea formaldehyde, phenol-resorcinal, epoxy, casein, polyvinyl acetate and contact types. Of these, probably the contact, polyvinyl, urea and casein are used in the order named. The choice of an adhesive depends upon the intended use of the fabricated unit, the type of core, the volume and the availability of equipment to do the job. The important thing is to follow the glue manufacturer's instructions on the use of his glue.

I. BONDING OF DECORATIVE LAMINATES (Cont'd)

In most field trips, contact and polyvinyl acetates have by far been the most common adhesives used for gluing.

A. Contact Adhesive

Contact adhesives are divided into solvent base and water base. The solvent base is the more popular in that the contact glue does dry in a short time and if necessary, drying can be expedited by heat lamps, drying ovens or more recently can be preheated so that drying occurs with spraying of contact onto the core.

1. Advantages

Material can be bonded with the simplest of equipment and for volume production the use of spray guns, rotary presses will increase production.

... Good adhesives for the small shop or the large volume shop.
... No time lost between bonding and fabrication
... Does minimize telegraphing of inferior core material
... About the most inexpensive way to bond to metal
... Permits use of thinner laminates

2. Disadvant[illegible]s

Solvent b[illegible] contact cements are flammable and spray booths have to be ven[illegible]ated. The water based cements are not flammable but are slower [illegible]n drying. There are non-flammable solvent based cements being developed.

Because contact cements are not rigid cements - in other words, the glue never sets, the laminate is allowed to expand and contract with changes in the temperature and moisture content. These changes are more apparent in the width of the sheet and in larger sheet sizes.

Contact adhesives are particularly popular with metal desk manufacturers and postformers using the Bechtold Rollomatic to make sink decks and formed cabinet doors.

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B. Polyvinyl Acetate

Champ glue is one common brand name. Mobile home manufacturers use this versatile glue for all their gluing operations, nailing and gluing, studding, gluing panels to the studs and finally gluing plastic to cores for sink and vanity tops and even room and cabinet doors. With the simplest of hand brush applications and pressure applied by weight of plywood stached on top of panels, some mobile home manufacturers bond plastic to plywood and novoply with considerable success and in sufficient volume, without elaborate equipment.

PVA (white glue) Polyvinyl acetate is similar to Ureas but it has slightly less moisture resistance than Ureas. It is used for bonding where lower water resistance and heat resistance are not detrimental to the intended use.

1. Advantages

Polyvinyl acetates are popular as this adhesive bonds in a relatively short time when compared to other cold setting adhesives which take from a few to eight hours to cure at room temperature.

C. Urea Formaldehyde

This glue has good gap filling qualities, minimum shrinkage and high water resistance.

1. Advantages

... Rigid bond permits no contraction or expansion of the laminate
... Highly water resistant
... Can be applied with conventional glue spreaders
... Can be cured at minimum of room temperature or hot pressed at maximum temperature of 180°F in six to eight minutes

2. Disadvantages

... Requires equipment to apply glue and a press or clamps to maintain and hold pressure until bond is attained
... Requires extended drying time to set glue
... Hot pressing can reduce set time but contributes to warpage
... Required pressure for bond can cause telegraphing of cores particularly with thin 1/32" laminates.

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I. BONDING OF DECORATIVE LAMINATES (Cont'd)

In our gluing operation we are required to procure oversize novoply (49 x 97) plywood or hard board in order to bond MICARTA and supply our customer the net oversize plywood or novoply so unless customer can tolerate undersize panels we have to schedule our shipments based on plywood from the coast or Novoply from South Boston.

D. Good Glue Practices

In any kind of glue operation no matter what the core or the type of glue there are some points to follow.

1. Select the right adhesives for the job intended.

2. Follow the instructions of the glue manufacturer.

3. Use smooth surface core stock material free of voids, raised grain, patches, etc. to avoid telegraphing of the core.

4. The cores and the back surface of MICARTA and the glue should be free of all dirt and possible trash that may become included in the glue bond and cause a rupture of the plastic face.

5. Proper pressure applied. For theremo-setting glues approximately 10 to 25 pounds per square inch. An old rule of thumb is sufficient pressure to get beads of squeeze out of the glue along the edge of the build-up. Excessive pressure will only cause telegraphing. Pressure in contact gluing should be slightly less than the amount required to break the overhanging laminate on the core.

6. All materials involved, the core, the plastic should be allowed to acclimatise and brought to equilibrium of moisture content and temperature prior to bonding. Not only plastic but core materials should be stored at room temperatures of 70-80°F and a relative humidity of 50-55%. Extreme cold temperatures of warehouse remove moisture and contribute to warpage of panels.

7. Some thermosetting glues require a catalyst. Sould make sure it is added to the glue and in the proper amounts, otherwise the glue will never set.

8. In cold weather gluing there should be sufficient heating arrangements to maintain proper room temperatures to set the glue.

9. Plastic faces should be covered with paper to prevent glue from adhering to face.

DATED DOCUMENT SUBJECT TO CHANGE WITHOUT NOTICE

I. BONDING OF DECORATIVE LAMINATES (Cont'd)

10. Most reputable glue manufacturers are willing to offer aid on a gluing problem. Encourage the use of this service.

J. POST FORMING

Universal Grade Micarta

Universal post-forms at a temperature of 325°F., a temperature where conventional materials may blister. Actually, Universal will not blister at less than 370°F. It is this quality which makes possible the superior physical properties of Universal.

The amount you can bend Universal depends on the temperature to which you have heated this sheet.

The important thing to remember is that Universal Grade reaches optimus post-formability at 325°F. For best results Universal Grade should be raised to this temperature in at least 60 seconds.

Post-Forming Equipment

There are a variety of commercial post-forming presses on the market today, and in addition many fabricators have constructed their own forming jigs. Although it is impractical if not impossible to discuss each press individually, this problem can be resolved by grouping post-forming equipment into three basic heating sources. Together with the equipment with which each is most commonly associated, these heating sources are:

Infra-red North American Type; Increment - Grace Type; Platen - Bechtold type.

Trouble Shooting Tips

Glue set up times are approximate. Times vary with the formulation used. Check with a knife to be sure glue has set up.

Panel notches must be accurate. If they are made too large, the finished joint is loose, thus giving poor support for the Micarta. When the joint is made too tight or the wood mandrel too large, the plastic is stretched as it is formed. In severe cases this can break the printed surface.

Be Sure of the Forming Temperatures

Take a 325° F. Tempil - Laq and apply it to the face of several chips of universal. When the heater is thecorrect distancs, the Tempil - stick will melt in 42-45 seconds when the chip is placed face up in forming position.

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DATA COMMENTS PROTECTED IN MISSISSIPPI 3/18/65
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J. POST FORMING (Cont'd)

Be Sure the Heating is Even

Repeat the above test in several places along the forming surface to verify that the heat is being evenly distributed and that there are no cold spots.

PROCEDURE FOR POST-FORMING ON GRACE EQUIPMENT

1. Set your thermostat at 330° - 345° F. Warm up 10 minutes.

2. Place Universal in press - face up. Lower upper jig onto plastic.

3. Hold up drop leaves for 45 seconds. You are using increment heating. Only a narrow strip of Universal is in contact with the heater. As this reaches forming temperature...

4. ...release drop leaves and allow them to ride on Universal bending it over heaters. This brings the next strip of Universal in contact with heater and so on. The weight of the drop leaves (or hydraulic pressure) forms a 90° bend in 2 - 3 minutes.

5. Hold in formed position for 80 - 90 seconds to eliminate springback. Remove.

6. Glue sheel to core. Insert spacer block for core during veneering.

7. Set thermostat at 275° F.

8. Remove space block. Insert panel into press - Universal side down. Lower upper jig onto panel.

9. Hold drop leaf up for 45 seconds.

10. Release drop leaf and allow it to ride on the panel bending Universal over the heater. Forming entire 90° bend takes 2-3 minutes.

11. Insert freshly glued core strip - staple. Hold for 60 to 90 seconds while glue sets. Remove.

Trouble Shooting Tips

Glue set up times are approximate. Times vary with the formulation used. Check with a knife to be sure glue has set up. Spring back can be caused by removing the plastic from the press too soon after post-forming. Many fabricators use a cooling jig. Another method is to run a wet cloth along

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DALLAS COUNTY CASES 3/18/92

J. POST - FORMING (Cont'd)

the back of the forming line after the Universal is removed from the press. Be sure the heating tubes are parallel and level. Mis-alignment sets up stresses in the material which can cause cracking of the printed surface. Be sure the drop leaves are flat. Warped leaves bend the plastic unevenly around the heating tube. This heats the material unevenly and can cause cold cracks.

Be Sure of the Forming Temperature

Thermostats will get out of adjustment on occasion. Apply 325° F. Tempil-Lag to the Heating Tube. If the temperature is correct the Tempil-Lag will change color in 45 seconds.

Be Sure that the Heating is Even

Repeat the above test in several places along the heating tube to verify that the heat is being evenly distributed and that there are no cold spots.

PROCEDURE FOR POST-FORMING ON BECHTOLD EQUIPMENT

1. Set the three thermostats at 340°F. (They are factory set at 313°F.) Warm up 30-40 minutes.

2. Insert freshly glued backsplash core in press. This acts as the lower forming die.

3. Insert Universal into heater - face down - for 15-20 seconds.

4. Withdraw and flip Universal 180° over and insert into press face up. Position over backsplash core.

5. Close press. Hold at 80 PSI for 2 minutes while the mandrel heater sets the glue.

6. Remove finished backsplash.

7. Insert freshly glued bull nose and core assembly in press. This acts as the lower forming die.

8. Insert unformed edge of Universal through press into heater. Hold for 15-20 seconds.

9. Withdraw Universal into press. Position so that backsplash core mates with the flat core.

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J. POST-FORMING (Cont'd)

10. Close the press. Hold at 80 pounds per square inch for 2 minutes while mandrel heater (about 180°F.) sets the glue.

11. Staple backsplash core to flat core. Remove.

12. Place fully formed top in veneering press for 10 minutes to set glue on flat surface.

Trouble Shooting Tips

Glue set up times are approximate. Times vary with the formulation used. Check with a knife to be sure glue has set up. Positioning of the backsplash and no drip cores in the presses must be done with cara. Clearance between core and mating dies should be set so that the Universal is fitted snugly to the core when the press is fully closed.

Be Sure of the Forming Temperature

Thermostats will get out of adjustment on occasion. Apply 325° F. Tempil stik (or Tempil-laq) on the backs of several chips of Universal. Place the chip face up in the heater. If the temperature is correct the Tempil-stik will melt in 20 seconds.

Be Sure that the Heating is Even

Repeat the above test in at least three places to verify that heat is evenly distributed and that there are no cold spots. Be sure too, that the heated plastic is not allowed to cool before being placed in the press. This can be just as unsatisfactory as not getting the material to forming temperature in the first place. Especially in the case of the backsplash, position the plastic and close the press without delay. A drafty area is unsuitable for this operation.

General Trouble Shooting Tips on Post-forming

Post-forming Universal is trouble free so long as the material is heated to 325° F. within 60 seconds (or as specified for each type of forming equipment.) Irregularities in this temperature and time cycle can result in blisters, cold cracks or edge cracks. When this happens it pays to check the temperature with a Tempil-stik (see directions under each type of equipment) rather than trust the reading of a thermostat.

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J. POST FORMING (Cont'd)

Blistering

Blistering of the surface is the result of applying heat too fast. There may be as much as 10° F. temperature difference between the front and back of a sheet of Universal when the heat is properly applied to one side. When too much heat is applied, this side reaches the blister point before the plastic is heated to forming temperature clear through the sheet.

Remedy

Re-Check the temperature and time cycle. (There are directions under each type of equipment).

Be sure the Universal Micarta is at room temperature before post-forming and that the room is draft free.

Edge Cracks

Edge Cracks can occur at the ends of an other-wise perfect bend. These short cracks can be caused by uneven heat distribution or by uneven forming pressure.

Remedy

Re-check the heat distribution (there are directions under each type of equipment). Usually these can be eliminated by bevelling the plastic at a 45° angle away from the print surface at both ends of the area to be post-formed.

Cold Cracks

Cold cracks are long, straight cracks which break the print sheet where forming is placing the most stress. This is happening because the plastic was not formed or perhaps never reached the desired 325° F. forming temperature.

Remedy

Re-check the temperature and time cycle (there are directions under each type of equipment). Be sure the Universal is at room temperature before post-forming and that the room is draft free. With Bechtold your material must be positioned quickly in the press before it cools.

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J. POST-FORMING (Cont'd)

Color Change

Color change along the heated area can occasionally be seen when the plastic is removed from the press. Certain colors, especially red, heve this tendency. This is a temporary condition which disappears when the material cools.

Dulling

Dulling along the heated area of the plastic to a slight degree is a normal result of post-forming. This is especially true with the platen heating. Careful positioning of the material during heating will confine the fulled part of the material to carved areas where it is unnoticeable.

1/32-Inch Formable Decorative Micarta (developed especially for vertical surfacing.)

Fabrication

Fabrication and installation methods on cabinets, furniture, panels and wainscoting are the same as for standard 1/16-inch or .050 Universal grade Decorative MICARTA. 1/32" Micarta postforms when heated to 325°F. in 60 seconds to a 3/8-inch radius on commercial postforming equipment. Application to core stocks such as lauan-faced plywood, smooth-finish particle boards or metals is recommended by contact gluing procedures.

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K. MARKETS AND USES

Micarta has applications in many markets

In Hotels, Hospitals, Restaurants and other Public Buildings

- restaurant and bar tops
- reception desks
- furniture tops
- window stools
- counters
- lobby walls
- toilet counters
- ticket counters
- elevator cabs
- push and kick plates
- walls and wainscoting
- bars
- service areas
- doors
- back bars
- table tops

In Furniture

- table tops
- chairs
- serving bars
- bed panels
- book cases
- cabinets
- TV and radio sets
- dressing tables
- dressers
- serving trays
- doors
- vanities

In Stores, Shops and Offices

- counters
- desk tops
- base boards
- self-service islands
- escalators
- stairways
- cashier's counter
- wrapping windows
- barber and beauty shop fixtures

In Homes

- sink and counter tops
- bathroom vanities
- built-in furniture
- wall paneling
- window stools
- room dividers
- storage walls

In Transportation

- wainscoting
- door panels
- ceiling and covers
- partitions
- table tops
- terminals

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L. COMPETITION

1. High Pressure Laminates

Although there are more, the following are those which you are likely to encounter 95% of the time:

Micarta (Westinghouse)	Parkwood (Parkwood Laminates)
Textolite (GE)	Pionite (Pioneer Plastics)
Consowald (Consowald Corp.)	Formica (Formica Corp.)
Nevamar (National Plastics)	Decarlite (Decar Plastics)
Panelyte (Reliance)	Laminart (Fabricon)
Railite (Reise)	Wilson Art (Rexall Drug & Chem.)

2. Low Pressure Laminates

These plastics do not have a melamine surface nor wear-resistant qualities equal to high pressure laminates. They are polyester surfaced, 1/32" thick, produced in continuous rolls.

Conolite & Kevinite (Conolite, Inc., Chicago, Ill.)

DATED DOCUMENTS REPRODUCED COURTESY CASES 3/18/92

MICARTA

DATE: NOVEMBER 1, 1965

SECTION: SM-116 Page 28
PRODUCT: MICARTA PLASTIC LAMINATE

M. SALES AIDS

All Micarta samples are ordered through Westinghouse at Hampton, South Carolina to the attention of C. W. Chassereau. Please use standard MICARTA Purchase Order Form.

All invoices will be sent to MICARTA Division, New York from Hampton, where the costs will be distributed in line with present policy - whereby New York absorbs 50% of costs on all items with exceptions of 2" x 3" samples (N. Y. absorbs 2/3 of cost).

DECORATIVE MICARTA LINE SAMPLE SETS

ITEM - SIZE		COST/SET	ORDER FROM
2" x 3" SAMPLE CHIPS CHAINED & ASSEMBLED			
CATALOG SECTION AND STYLE NO.			
Section I 45M0056	52 standard grains all in satin finish	.78	Westinghouse Hampton, S. C.
Section III 45M0060	17 patterns and 7 solid colors	.50	Westinghouse Hampton, S. C.
Section IV 45M0071	41 woodgrains developed for the furniture industry	.75	Westinghouse Hampton, S. C.
Section V 45M0073	22 MICARTA solid colors	.45	Westinghouse Hampton, S. C.
Section VI 45M0075	58 MICARTA woodgrains	1.00	Westinghouse Hampton, S. C.
Section VII 45M0077	27 MICARTA patterns	.55	Westinghouse Hampton, S. C.
5" x 8" SAMPLE CHIPS CHAINED & ASSEMBLED			
Section I 45M0064	52 standard grains all in satin finish	6.25	Westinghouse Hampton, S. C.
Section III 45M0070	17 patterns and 7 solid colors	3.10	Westinghouse Hampton, S. C.
Section IV 45M0073	41 woodgrains developed for the furniture industry	5.05	Westinghouse Hampton, S. C.
Section V 45M0074	22 MICARTA solid colors	2.80	Westinghouse Hampton, S. C.

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PRODUCED BY WESTINGHOUSE IN MISSISSIPPI - SCORDING

MICARTA

DATE: November 1, 1965

SECTION: SM-116 Page 28A
PRODUCT: MICARTA PLASTIC LAMIN/

CATALOG SECTION AND STYLE NO.	ITEM - SIZE	COST/SET	ORDER FROM
Section VI 45M0076	58 MICARTA woodgrains	7.05	Westinghouse Hampton, S. C.
Section VII 45M0078	37 MICARTA patterns	3.25	Westinghouse Hampton, S. C.
3½" x 3½" SPECIAL ARCHITECTURAL SOLID COLORS			
Section II	New Architect line of solid colors (36 chips per set in box)	3.60	Westinghouse Hampton, S. C.
When requesting a desired finish, please designate the following code letter after the style number of the set. S--Satin G--Gloss F--Furniture M--Lo Glare C--Oil Rub There will be extended deliveries for furniture, lo glare and oil rub finish samples.			
	ITEM-SIZE	COST	ORDER FROM
2" x 3" INDIVIDUAL SAMPLE CHIPS			
Packed 50 to a box... Order by grade and finish		.75/box	Hampton
Price per chip		.015	Hampton
Price per chain		.03	Hampton
Price per assembly		.10/set	Hampton
5" x 8" INDIVIDUAL SAMPLE CHIPS			
Packed 25 to a box - Order by grade and finish		1.00/box	Hampton
Price per chip		.02	Hampton
Price per chain		.03	Hampton
Price per assembly		.10/set	Hampton
Samples for all non-standard items listed in cross reference index can be obtained from Hampton at above prices providing the Micarta item is in stock.			
DISPLAYS DEALER DISPLAY Sturdy, -- versatile -- for wall or counter. Overall size 18"W x 25" H. Capacity up to 300 (10 each of 30 colors) 2" x 3" sample chips. Shipped 10 displays to a carton with 300 hooks per carton. Chip samples not included.		.50	U. S. Plywood 777 Third Avenue New York, N.Y. Rigid Plastics Department

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M. SALES AIDS (Cont'd)

Literature

Holiday in Color chart - #2221A

Micarta Color Cues - #SA9278 - Stuffer designed for use by building supply dealers and fabricators with their customers.

Technical & Application Information for Architects and Designers - #B8238B (Architects' & Designers' Manual)

Fire Resistant Asbestos Micarta - #2374 - Technical data sheet for architects.

Mailers

May I Talk To You About A Personal Matter? #SA9299 - Self-mailer (full color) for selected mailing to builders.

Micarta Mailing series - #2378, #2379, #2387 - Three self-mailers designed to reach all Micarta prospects. Branch address and phone number are imprinted on mailers.

Micarta Label

A bronze and white label designed for use on finished products made of Micarta. Carries instructions to the consumer on the care of the product. Customer imprinting available on these labels.

Counter and/or Wall Display

Overall size 18" wide by 25" high. Capacity up to 300 (10 each of 30 colors) 2"x3" sample chips. Shipped K. K., 10 each in a carton, with simple assembly instructions. Samples not included.

N. WESTINGHOUSE MICARTA WARRANTIES

These warranties supersede all previous Westinghouse Micarta warranties and apply to all U. S. Plywood sales.

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N. WESTINGHOUSE MICARTA WARRANTIES (Cont'd)

1. THEREMOSETTING HIGH PRESSURE DECORATIVE LAMINATES - TRADENAME - MICARTA

WARRANTY:

Westinghouse MICARTA laminates are warranted against surface defects in material or workmanship, but is without warranty of fitness for any other specific application or use. Westinghouse liability under this warranty is limited to replacement of the defective MICARTA material only for a period of one year from the date of shipment.

Since Westinghouse has no control over the use which others may apply the material Westinghouse, therefore, assumes no responsibility in the application of MICARTA when used in combination with other substances.

Westinghouse makes no other warranty of said material, express or implied and no representative has authority to make any representation, promise or agreement except as stated herein.

2. MICARTA WALL PRODUCTS

WARRANTY:

Westinghouse MICARTA wall products are warranted against defects in workmanship or material for a period of one year from date of shipment. Westinghouse liability under this warranty is limited to replacement of material only and Westinghouse shall not be liable for any consequential damages.

Westinghouse makes no other warranty of said materials, express or implied, and no representative has authority to make any representation promise or agreement except as stated herein.

3. 1/32" VERTICAL SURFACING MICARTA

WARRANTY:

Westinghouse 1/32" MICARTA, a high pressure laminate, is designed essentially for application to vertical surfaces only. 1/32" MICARTA is warranted against defects in material or workmanship but is without warranty of fitness for any other specific application or use. Westinghouse does not assume any responsibility for results or consequences of the use of 1/32" MICARTA alone or in combinations with other substances. Westinghouse liability under this warranty and otherwise is limited to replacement of the defective material only for a period of one year from the date of shipment. Westinghouse makes no other warranty of said material, express or implied and no representative has authority to m any representation, promise or agreement except as states herein.

DOCUMENTS PRODUCED DALLAS COUNTY CASES 3/18/92

O. TECHNICAL SERVICE PROBLEMS OF THE DECORATIVE MICARTA DIVISION

The majority of the Technical Service problems which we have encountered in the field may be listed under the following headings:

1. Postformability - both 1/32" and .050"
2. Gluing - all types.
3. Machining - including sawing, drilling, etc.
4. Cleanability - removal of dirt, stains, scratches, etc.

Postformability - approximately 85% of the postforming field complaints are the result of faulty equipment or improper fabrication methods while only 15% has been defective plastic.

Some of the more common postforming discrepancies which have been noted and the corrective action which should be taken are listed below.

A. Rough and improperly shaped cores

Cores should be checked with a radius or template for uniform radius and should be free of trash, dents and hard spots.

B. Improper gluing

Glue should be applied in an area which is free of dust, dirt and trash and should be a uniform coating. Too often a heavy glue line is built up on the core or the plastic and when the material is bonded, the glue is too wet in this area to give sufficient bond. If this poor bond happens on the bull nose or back splash it will cause the shaper blades to chip the plastic and may cause cracking across the entire length of the panel. When using a contact glue, adequate drying time should be allowed for the glue before attempting to bond the plastic and core. A good solution to this problem is some type of drying oven which will speed up the evaporation of the solvent in the glue and reduce the set time on the glue. We have had some cases of complaints on springback which were not the result of defective material but rather where the customer did not have an adequate glue supply or adequate pressure. It is recommended that when using a glue such as Urac 185 on a die cast such as Bechtold or Grace that a small bead line of glue should be squeezed out on the edges. This will guarantee an adequate glue supply and prevent springback. Springback can also result when you do not apply adequate pressure to the material when postforming. A pressure of 60 psi is recommended for the Bechtold Die Cast.

C. Inadequate storage facilities for plastic

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It is recommended that the MICARTA should be stored at 70° - 80°F and 50-55% relative humidity. The sheets should be removed from the cartons and stacked on edge in order thatthe moisture content may be uniform

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O. TECHNICAL SERVICE PROBLEMS OF THE DECORATIVE MICARTA DIVISION (Cont'd)

throughout the entire sheet. The sheets should be removed from the the humidity room on the morning that they are to be used and stored along with the cores in order that they may adjust themselves to room temperature, etc. Too often, the plastic is stored under extreme hot or cold conditions and thus, the postforming characteristics of the material is affected. If too much moisture is removed from the sheet, breakage may occur in the postforming operation; on the other hand, if too much moisture is placed into the sheet, blistering of the laminate may occur.

D. Too much or too little heat

It has long been our recommendation that the plastic be heated to 325°F throughout for postforming. On a platen type heater, the temperature may be checked by scraping a 325°F Tempil-stik across the back of the laminate and subjecting it to the cutomer's heating cycle. On machines where the cal-rod type heaters are used, the temperature may be checked by brushing Templaq across the surface, allowing it to dry for 2-3 minutes, then running it through the heating and forming cycle. If the sheet is not heated to the desired temperature it may result in crackin however, if the sheet is overheated, you may encounter blistering and/or cracking. Specific recommendations are given in the attached sheets fc different postforming machines.

E. Machine improperly aligned

Several complaints have arisen on the plastic from machines being malaigned to the point where too much pressure was placed against the plastic at a given point. This has been true on both the Roll-A-Matic and the die-cast postformers, and in many cases has resulted in a sizeable quantity of cracked material. The Roll-A-Matic can be out of alignment when the rollers on the end of the machine are moved in too close or too far from the plastic and coke coming through the forming bars. If the rollers are too tight or if they are not adjusted properly on the plastic they will tend to pinch the plastic and crack it on the bull nose, back splash, or underside of the panel. If these rollers are too loose, they will not give sufficient bond and thus cause a chipping effect when the panel passes through the shaper blade. When we encountered this trouble, we simply had to keep adjusting the rollers until we eliminated the cracking.

We have had several cases on the die cast postformers where the male die was not lined up with the female die. When this condition was present, the plastic would be pulled apart at one point and usually not bonded very well at the other point. This is caused by the male die touching at one point on the laminate before the rest of the laminate is touched. This causes a heavy stress at this point, thus pulling the plastic apart.

DELTA COMMERCIAL PRODUCT

O. TECHNICAL SERVICE PROBLEMS OF THE DECORATIVE MICARTA DIVISION (Cont'd)

The alignment point can be proven by placing a piece of bare back splash or bull nose molding in the postformer and adding small sheets of carbon paper across the molding. Apply pressure (approximately 15-20 lbs.) then lower the die and check the degree of carbon black at all points. You may have to increase pressure to get a good contact before the alignment degree can be evaluated. If you are receiving too much pressure (misalignment) at any point, the carbon should be heavy at that point on the molding.

F. Insufficient Voltage

In several instances we have had customers who did not have an adequate voltage to the postformer. We found that when other machinery was being used in their shop, there was a substantial voltage drop on the postformer which resulted in the plastic not receiving enough heat to successfully postform the laminates. This problem is very hard to locate because the cracking becomes sporadic and the customer feels that he has borderline material. In most cases the plastic has been excellent postforming material and only cracked when the voltage was not sufficient to adequately heat the plastic sheet. The voltage input into the roll-a-matic should be between 208 and 220 volts and constant. No other equipment should be tied in with the postformer which would cause a voltage drop below 208. Any fluctuation in the voltage below 208 will cause a fluctuation in heat.

G. Dull shaper blades

On several occasions the shaper blades on the Roll-A-Matic have caused severe chipping of the plastic on the edges of the formed panel. We have also encountered a non-uniform shaping on the underside of the panels which was caused by dull blades or improperly aligned blades. Your recommendation to the customer is to purchase an extra set of shapers and have the present blade sharpened.

Cleanability of Plastic

We have had many requests from the salesmen as well as customers concerning our recommendations on cleaning agents which may be used on MICARTA to remove stains, scratches, dirt, etc.

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O. TECHNICAL SERVICE PROBLEMS OF THE DECORATIVE MICARTA DIVISION (Cont'd)

Recommendations

1. Textured Finishes

A number of textured panels, Oil-Rub, Lo-Glare, and Velvet finish were submitted to Johnson's Wax Company for their recommendation of a cleaning agent for removing dirt, crayon marks, heel marks, inks, etc. After a considerable testing program, they recommended Johnson's Jubilee as an all purpose cleaner. This material will not only do an effective cleaning job but will add a lustre (wax) to the surface, giving it a further dimension. Textured finishes are more vulnerable to stains, etc., and caution should be used in recommending it on a surface which may receive excessive stains.

Do not attempt to remove a stain from a textured surface with an abrasive material such as Dutch cleanser or Lava Soap as the pumice in the material tends to remove the loose fibers on the surface and causes a shiny spot on the laminate.

2. Satin Finish

As a general rule stains, etc., on satin finish MICARTA may be removed with Lava soap, Bon Ami or some light abrasive material; however, there are certain materials that are almost impossible to remove from any plastic laminate. We had a case recently where a customer had allowed some Walnut and Maple Varnish to come in contact with panels of satin MICARTA. Upon testing, we were unable to arrive at a satisfactory solvent or cleaning agent which would completely remove all of the stain. It appeared that the stain had etched itself into the surface sheet and could not be removed. We found that a combination of Methyl Ethyl Ketone and pumice did the best cleaning job, however.

Deep scratches are almost impossible to remove from a plastic sheet. It is recommended that you use a fine steel wool and pumice or Temp and brush over the scratch until you feather it out with the rest of the laminate. We have found that scuff marks are easily removed with fine steel wool and Temp, followed by a damp cloth to remove the pumice from the laminate.

In cleaning a satin laminate caution should be used in the cleaning stroke when cleaning with a pumice type material as it is very easily streaked. Use long full strokes across the scuff mark in the machine direction, and make sure a uniform pressure is applied throughout the stroke. Follow the cleaning stroke with a damp cloth to remove pumice.

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O. TECHNICAL SERVICE PROBLEMS OF THE DECORATIVE MICARTA DIVISION (Cont'd)

Fingerprints may be removed from both the satin and textured finishes by washing lightly with a mild soap (Ivory) and a damp cloth. Do not use a pumice type material on the textured finishes.

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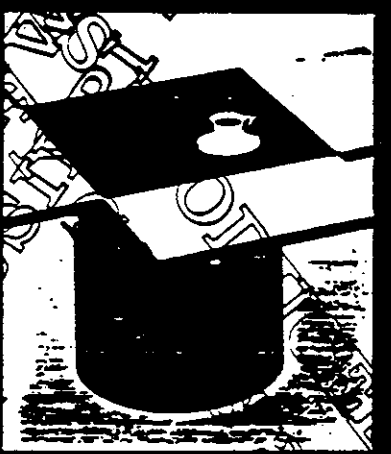
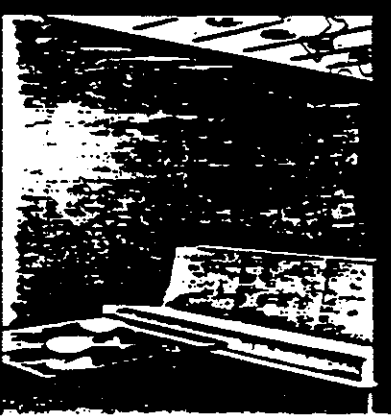
Westinghouse Micarta

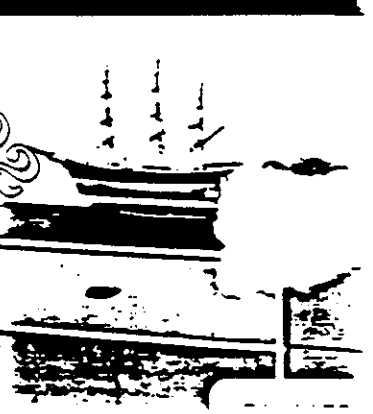
High Pressure Decorative Laminates

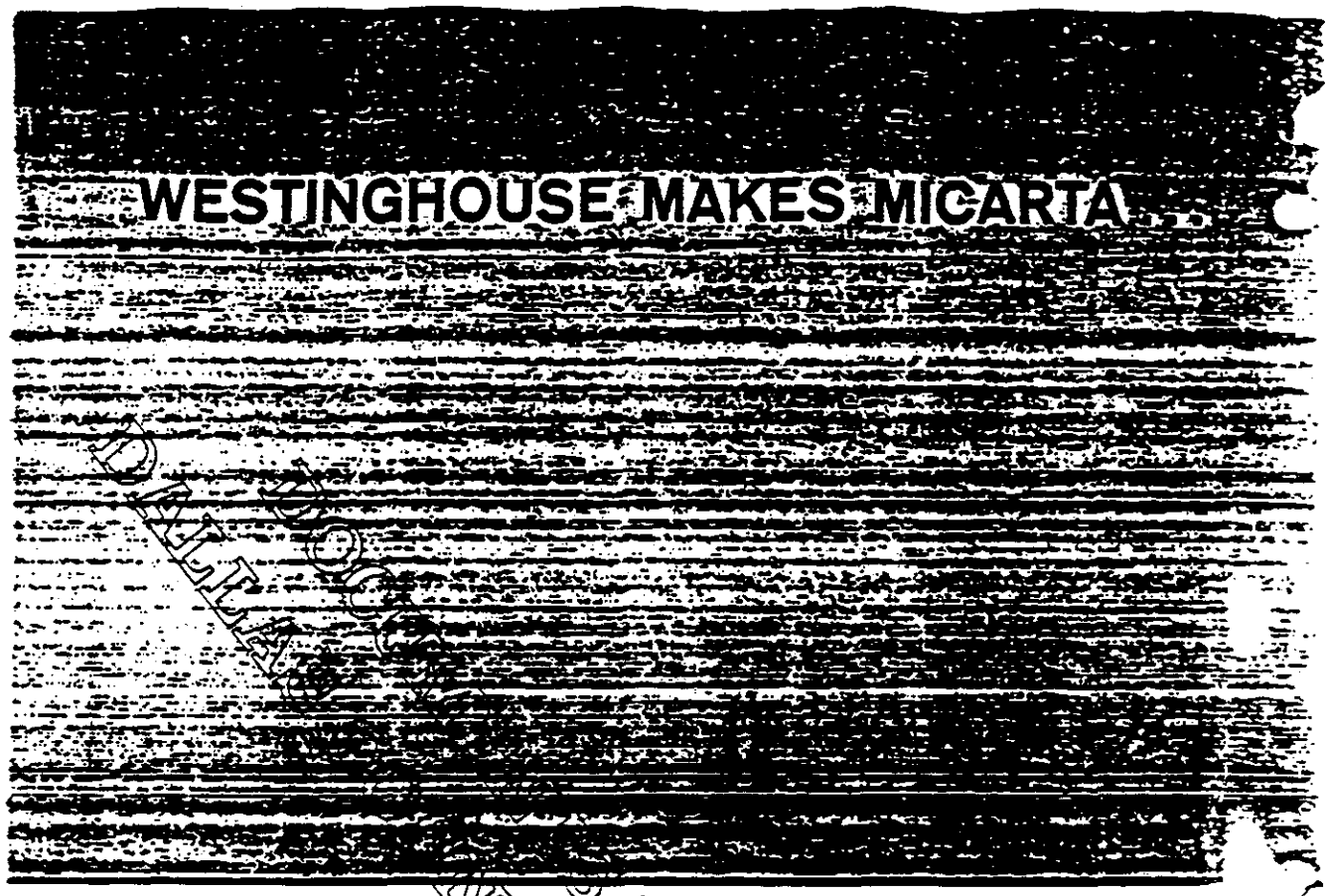
Technical and Application Information for Architects and Designers











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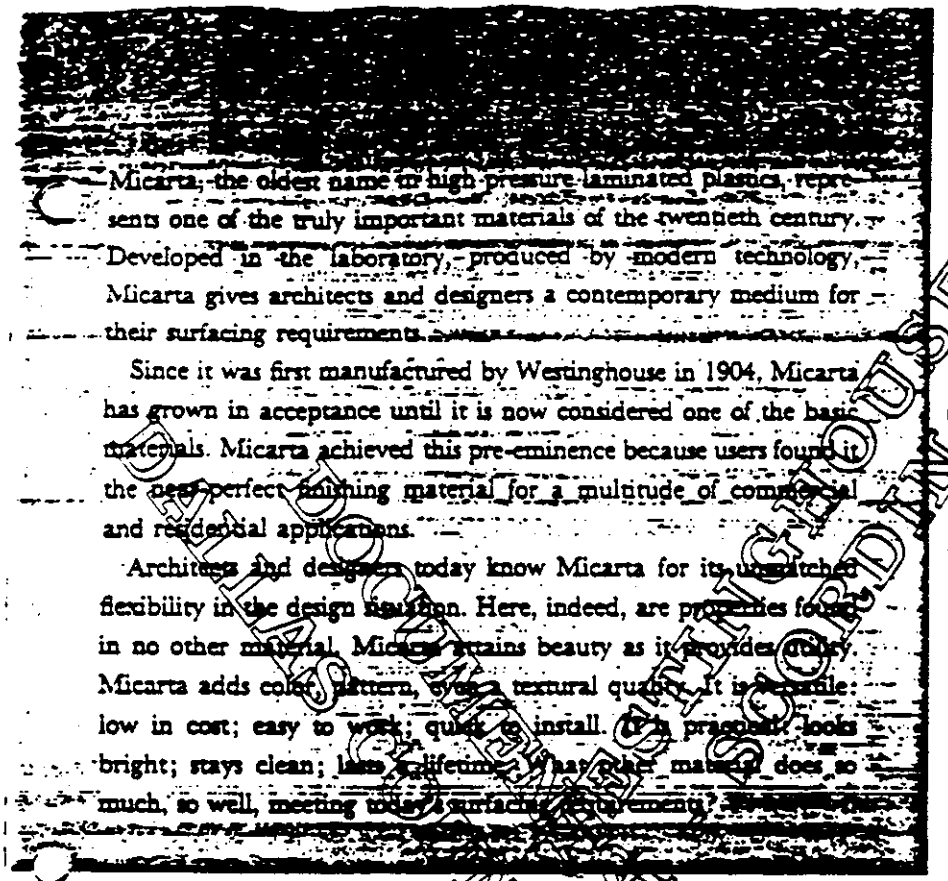

Micarta, the oldest name in high pressure laminated plastics, represents one of the truly important materials of the twentieth century.

Developed in the laboratory, produced by modern technology, Micarta gives architects and designers a contemporary medium for their surfacing requirements.

Since it was first manufactured by Westinghouse in 1904, Micarta has grown in acceptance until it is now considered one of the basic materials. Micarta achieved this pre-eminence because users found it the near-perfect finishing material for a multitude of commercial and residential applications.

Architects and designers today know Micarta for its unmatched flexibility in the design situation. Here, indeed, are properties found in no other material. Micarta retains beauty as it provides utility. Micarta adds color, pattern, even a textural quality. It is versatile: low in cost; easy to work; quick to install. It's practical: looks bright; stays clean; lasts a lifetime. What other material does so much, so well, meeting today's surfacing requirements?

The Micarta you need . . . when you need it . . . where you need it. That's the pledge of availability Westinghouse makes to users of high pressure laminated plastics. That's why Micarta has associated itself with one of America's great building supply sources.

United States Plywood is the national distributor for Micarta. Its outlets offer a full inventory of Micarta, a range of Micarta-faced components, plus materials necessary for installations.

To augment its warehousing capacity, United States Plywood provides a comprehensive marketing program developed in the interests of architects and designers. Key to this program is the Branch Office.

Through its Branch Offices, United States Plywood reaches and serves all areas of the country. Then, to extend Branch Office services directly to architects and designers, an Architect's Service Representative is assigned to many Branch territories. Completing this program, Branch Offices maintain showroom facilities for the convenience of architects and designers. So when you specify Micarta, you are in fact, getting the industry's most advanced services.

Universal Coverage — Wherever you are, there's a United States Plywood Branch close by. More than 125 outlets throughout the United States and Canada make up this company's distribution system. A central warehousing policy permits large inventories of Micarta in all grades and sizes, as well as a broad selection of colors, patterns and grains. Most important, this modern approach to distribution assures maximum regional coverage and quickest possible deliveries.

Architect's Service Representative — Functioning as a staff member at the Branch level, the Architect's Service Representative maintains close communication with architects and designers in his territory. He participates in regional architectural affairs. He acts as liaison between the design field and its source of supply at United States Plywood. He is knowledgeable of his products and their applications and will serve as your consultant for inquiries of all kinds.

Showroom Facilities — United States Plywood Branch Offices provide building material displays to permit a firsthand view of the company's variety of product lines. These showrooms are always available for demonstrations to architects, designers and their clients. An experienced representative will gladly discuss products as well as specifying and planning problems.

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General Information

Toward freedom from maintenance, versatility in design, flexibility in use—Micarta is the high pressure decorative laminate architects and designers have been specifying increasingly for countless applications. You will find many of these Micarta uses described and detailed in this manual.

Why Micarta? Because it's durable. It resists scuffs, scratches, stains, soap, chipping, fruit juices and heat.

The design-versatility of Micarta—Again, why Micarta? Because it possesses many qualities suited to the design situation. Four closely controlled finishes provide a graduating scale of reflectance values. Micarta colors, grains, and patterns give a latitude of choice to all preferences. New, improved colors have been selected with your job in mind.

The use-flexibility of Micarta—Furniture, counter tops, vanity built-ins, cabinets, movable partitions, interior doors, table and desk tops, wainscoting, elevator cabs, to name a few applications, confirm the use-flexibility of Micarta.

And now . . . three Micarta exclusives—Westinghouse, adding to its line, announces three important developments: a) Fire Resistant Micarta; b) 1/32"; c) Lo Glare Finish.

Fire Resistant Micarta is a high pressure laminate surfacing for applications where fireproofing is essential. First made for shipboard use, it offers all the features of General Purpose Micarta plus special advantages to meet protective codes. Fire Resistant Micarta has an asbestos base and bears the Underwriters' Laboratories, Inc. label.

1/32" introduces a new dimension in high pressure laminates to the field. Only half as thick as standard laminates, it was designed essentially for vertical surfacing. 1/32" comes in all standard sizes, colors, grains and patterns.

Lo Glare is a new Micarta finish developed particularly for office desks or wherever minimum light reflectivity is desired. Plus its glare-subtracting quality, Lo Glare imparts a slight textural feel to the Micarta.

Pages 18 to 23, which carry technical and application data, describe how these new products permit a greater range of design expression for your surfacing requirements.

DOCUMENTS PROVIDED
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