

# HIGH PERFORMANCE INDUSTRIAL WOOD COATINGS

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### HIGH PERFORMANCE INDUSTRIAL COATINGS

### **GROUP "P" (Pigmented)**

- **PA** PIGMENTED POLYURETHANE PRIMERS AND SEALER
- **PC** WB DIPPING STAINS
- PD PATINA AND ANTIQUING GLAZES, BINDERS
- PF CONCENTRATED DYES AND SPRAY STAINS
- PG PIGMENTED STAINS
- PI POLYESTER PIGMENTED PRIMERS
- PL POLYURETHANE MATTE FINISHES
- **PM** POLYURETHANE GLOSS FINISHES
- **PN** PENETRATING STAINS FOR EXTERIOR EXPOSURE
- **PT** PIGMENTED WB SEALERS
- PW PIGMENTED WB FINISHES
- PX ADDITIVES AND AUXILIARIES
- PZ TINTING COLOR PASTES

### **GROUP "T" (Clears)**

- TA TRANSPARENT POLYURETHANE PRIMERS AND SEALERS
- TC TRANSPARENT PARAFFINED POLYESTERS
- **TE** UV PRIMERS AND SEALERS FOR ROLLER AND REVERSE
- TF ADHESION PROMOTING PRIMERS AND SPECIAL SEALERS
- TG TRANSPARENT POLYESTER PRIMERS AND SEALERS
- TK UV CURED FINISHES, MATTE AND GLOSS, FOR CURTAIN AND SPRAY
- TL UV CURED FINISHES FOR ROLLER AND REVERSE ROLLER
- TN CLEAR FINISHES AND PRIMERS FOR EXTERIOR EXPOSURE
- TO TRANSPARENT MATTE POLYURETHANE FINISHES
- TP TRANSPARENT GLOSS POLYURETHANE FINISHES
- TR TRANSPARENT POLYESTER FINISHES
- TS TRANSPARENT ACRYLIC FINISHES
- TU TRANSPARENT WB UV TOPCOATS AND SELF-SEALERS
- TW TRANSPARENT WB FINISHES

### ADDITIVES AND SOLVENTS

- TV CATALYSTS, ACCELERATORS AND PHOTOINITIATORS
- TX HARDENERS FOR POLYURETHANES
- TZ THINNERS

### Clear Polyurethane Open-pore System (various sheens)

Step 1: Polyurethane Sealer

Product #	<b>Component Description</b>	Parts/Wt	<u>Parts/Vol (Ounces)</u>
TA03	Polyurethane sealer	100	128
TX50*	Hardener	50	64
TZ33	Thinner	0-10	0-20
* Use TX75 for	non-yellowing	40	50

Pot life: **3-4 hours** 

Dry to handle: 30-40 minutes

Application: Spray on a coat of sealer. If a second coat of sealer is required it can be applied after one hour without sanding. If it is not applied within three hours, you must wait eight hours, sand the sealer with 320 paper, blow the residue from the panel, then apply the second coat of sealer. Allow 8 hours cure time before sanding and top coating. Tip size: 1.8 Air pressure: 35 lbs

Step 2: Polyurethane Finish

<u>Product #</u>	Component Description	Parts/Wt	<u>Parts/Vol (Ounces)</u>
T09 Series	Polyurethane Finish	100	128
TX24*	Hardener	50	64
TX50*	Hardener (for slightly faster dry)	50	64
TZ13**	Thinner	10-30	10-30
* Use TX75 for non	-vellowing.	40	50

\*\*TZ418 can be added to TZ13 in hot, humid weather to avoid pinholes and bubbles.

Pot life: 3-4 hours Dry to handle: 30-40 minutes Application: After 8 hours sand sealer with 320 sand paper. A second light sanding is recommended with 400 grit for optimum results in high gloss. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish. Tip size: 1.8 Air pressure: 35 lbs

### **Clear Polyurethane Hi-Build System with Ultra Clear Sealer**

Step 1: PF 5/series Stains for Color

Step 2: Ultra Clear Polyurethane Sealer

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TA44	Polyurethane sealer	100	128
TX11*	Hardener	50	64
TZ33**	Thinner	0-15	0-30

\*Use TX19 in hot, humid weather to avoid pinholes and bubbles. Use TX1511 for HAPS-Compliance \*\*TZ13 may be needed in hot weather to slow dry. Use "NH" solvent version for HAPS-Complaince

Pot life: 3-4 hours

Dry to handle: 30-40 minutes

**Application:** Spray on a coat of sealer. If additional coats of sealer are required they can be applied one hour after previous coat without sanding. If it is not applied within three hours, you must wait eight hours, sand the sealer with 320 paper, blow the residue from the panel, then apply the next coat of sealer. Allow 8 hours cure time before sanding and top coating.

Tip size: 1.8 Air pressure: 35 lbs

Step 3: Polyurethane Finish

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
T09/series	Polyurethane Finish	100	128
TX24*	Hardener	50	64
TZ13**	Thinner	10-30	10-30

\* Use TX75 for non-yellowing

40

50

\*\*Use TZ425 or TZ4223 in hot, humid weather to avoid pinholes and bubbles. Use TZ13NH for HAPS-Compliance.

Pot life: 3-4 hours

Dry to handle: 30-40 minutes

**Application:** After 8 hours sand sealer with 320 sand paper. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish. **Tip size:** 1.8

### **Clear Polyurethane Hi-Build System**

Step 1: PF 5/series Stains for Color

### Step 2: Polyurethane Sealer

Product #	<u>Component Description</u>	Parts/Wt	Parts/Vol (Ounces)
TA48	Polyurethane sealer	100	128
TX11*	Hardener	50	64
TZ33**	Thinner	0-15	0-30

\*Use TX19 in hot, humid weather to avoid pinholes and bubbles. Use TX1511 for HAPS-Compliance \*\*TZ13 may be needed in hot weather to slow dry. Use "NH" solvent version for HAPS-Complaince

Pot life: 3-4 hours

Dry to handle: 30-40 minutes

**Application:** Spray on a coat of sealer. If additional coats of sealer are required they can be applied one hour after previous coat without sanding. If not applied within three hours, you must wait eight hours, sand the sealer with 320 paper, blow the residue from the panel, then apply the next coat of sealer. Allow 8 hours cure time before sanding and top coating.

Tip size: 1.8 Air pressure: 35 lbs

Step 3: Polyurethane Finish

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
T09/series	Polyurethane Finish	100	128
TX24*	Hardener	50	64
TZ13**	Thinner	10-30	10-30

\* Use TX75 for non-yellowing

40

50

\*\*Use TZ425 or TZ4223 in hot, humid weather to avoid pinholes and bubbles. Use TZ13NH for HAPS-Compliance.

Pot life: 3-4 hours

Dry to handle: 30-40 minutes

**Application:** After 8 hours sand sealer with 320 sand paper. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish. **Tip size:** 1.8

### HAPS Compliant Clear Polyurethane Hi-Build System

**Step 1:** *PF 5/series Stains for Colors* 

Step 2: Polyurethane Sealer

Product #	<u>Component Description</u>	Parts/Wt	Parts/Vol (Ounces)
TA48	Polyurethane Sealer	100	128
TX11*	Hardener	50	64
TZ33NH**	Thinner	0-10	0-20

\*Use TX19 on hot, humid weather to avoid pinholes and bubbles. \*\*TZ13NH may be needed in hot weather to slow dry

Pot life: 3-4 hours

Dry to handle: 30-40 minutes

**Application:** Spray on a coat of sealer. If additional coats of sealer are required they can be applied one hour after previous coat without sanding. If not applied within three hours, you must wait eight hours, sand the sealer with 320 paper, blow the residue from the panel, then apply the next coat of sealer. Allow 8 hours cure time before sanding and top coating. **Tip size:** 1.8

Air pressure: 35 lbs

Step 3: Polyurethane Finish

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TO9/series	Polyurethane Finish	100	128
TX24*	Hardener	50	64
TZ13NH**	Thinner	10-30	10-30
* Use TX75 for noi	n-yellowing	40	50

\*\*Use TZ4223 or TZ425 in hot humid weather to avoid pinholes and bubbles.

Pot life: 3-4 hours Dry to handle: 30-40 minutes Application: After 8 hours sand sealer with 320 sand paper. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish. Tip size: 1.8 Air pressure: 35 lbs

### Acrylic/Polyurethane Open-Pore System

<u>Note:</u> This system is a "water white" system with maximum yellowing resistance. It is recommended for all light colored woods, i.e. ash, maple, birch.

### Step 1: Acrylic/Polyurethane Sealer

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TA0012	Acrylic/Urethane VOC/CSealer	100	128
TX1939	Hardener	20	26
TZ33NH or TZ13	Thinner	0 - 20	0 -20
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Pot life: 5 hours

Dry to handle: 15 - 30 minutes

**Application:** Spray one coat (cross- hatch), allow to dry 8 hours (at ambient temperature) before sanding. Additional coats maybe applied wet-on-wet within 1 to 3 hours of previous coats without sanding.

Dry to Topcoat: 8 hours

Tip size:1.8Air pressure:35 lbs

### Step 2: Acrylic/Polyurethane Finish (gloss)

Product #	<u>Component Description</u>	Parts/Wt	Parts/Vol (Ounces)
TP11	Acrylic/Polyurethane Finish	100	128
TX1939	Hardener	20	26
TZ13NH or TZ4	223 Thinner*	25 - 50	20 - 30
* 1 loo 20 50 porto	for onon noro		

\* Use 30 - 50 parts for open pore.

### Pot life: 6 hours

### Dry to handle: 1 hour

**Application:** First sand the sealer with 320, then 400 sand paper. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish. Additional coats may be applied wet-on-wet within 2-4 hours without sanding. For a harder finish use 5% additional TX1939 hardener. *Note:* this finish may be buffed if desired, but 2 or 3 coats may be neccesary to avoid rubbing through to undercoat. Wait at least 48-72 hours to buff.

Tip size: 1.8 Air pressure: 35 lbs

### **Step 2a:** Acrylic/Polyurethane Finish (matte)

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)		
TS000/series	Acrylic/Polyurethane Finish	100	128		
TX1939	Hardener	20	26		
TZ13NH or TZ4223	Thinner*	20	30		
* Use 30 - 50 parts for o	* Use 30 - 50 parts for open pore.				

### Pot life: 6 hours

Dry to handle: 15 - 30 minutes

**Application:** First sand the sealer with 320 sand paper. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish. Additional coats may be applied wet-on-wet within 1-3 hours without sanding.

Tip size: 1.8 Air pressure: 35 lbs

### Acrylic Urethane Velvet Diamond Finish

**Step 1:** PF 5/series Stains for Color

Product #	Component Description	Parts/Wt	<u> Parts/Vol (Ounces)</u>
TA44	Polyurethane sealer	100	128
TX11*	Hardener	50	64
TZ33**	Thinner	0-15	0-30

\*Use TX19 in hot, humid weather to avoid pinholes and bubbles. Use TX1511 for HAPS-Compliance \*\*TZ13 may be needed in hot weather to slow dry. Use "NH" solvent version for HAPS-Complaince

### Pot life: 3-4 hours

Dry to handle: 30-40 minutes

**Application:** Spray on a coat of sealer. If additional coats of sealer are required they can be applied one hour after previous coat without sanding. If it is not applied within three hours, you must wait eight hours, sand the sealer with 320 paper, blow the residue from the panel, then apply the next coat of sealer. Allow 8 hours cure time before sanding and top coating.

Tip size: 1.8 Air pressure: 35 lbs

### Step 3: Acrylic/Urethane Velvet Diamond Finish

Product #	Component Description	Parts/Wt	<u>Parts/Vol (Ounces)</u>
TS168	Acrylic Urethane Clear	100	128
TX168	Hardener	30	30
TZ4223 or13NH	Thinner	25	30

Pot life: 6 hours

Dry to handle: 15-30 minutes

**Application:** First sand the sealer 320 sand paper. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish. Additional coats may be applied wet-on-wet within 1-3 hours without sanding.

Tip size: 1.8

### Clear Polyurethane Table Top System

### Step 1: Barrier coat

<u>Product #</u>	Component Description	Parts/Wt	Parts/Vol (Ounces)
TF25	Polyurethane Barrier Coat	100	128
TV19	Accelerator	5	8
TZ35	Thinner	25	32

Pot life: 3-4 hours

Dry to handle: 20 minutes

Application: A thin wash coat must be applied, allowed to dry for at least 2 hours, and then apply the polyester undercoat. If undercoat is not applied within 4 hours, the barrier coat must be allowed to cure 8 hours, then sanded to insure adhesion.

Tip size: 1.8

Air pressure: 35 lbs

### Step 2: Polyester Undercoat

Product #	Component Description	Parts/Wt	<u>Parts/Vol (Ounces)</u>
TG1323	Clear polyester undercoat	100	128
TVS5AA1*	Accelerator	2	2
TZ03	Thinner	10	15-30
Note: Mix extreme	ly well before adding catalyst		
TV84	Catalyst	2	2
* 4 ( T) ( O E			

\* Use 1 part TVS5AA1 in hot weather, it slows the cure, but always use 2 parts TV84. Pot life: 30 - 60 minutes

Dry to handle: 1.5 - 2 hours

Application: Spray one very heavy coat (cross-hatch), let the undercoat dry for one hour and then spray an additional heavy coat (cross-hatch). If more than three hours dry, wait 12 hours and sand before recoating. Allow this wet-on-wet stage to dry 12 hours (at ambient temperature) before sanding. Note: <u>Never</u> mix the accelerator and catalyst together. Dry to recoat: 12 hours Tip size: 2.5

Air pressure: 35 lbs

### Step 3: Polyurethane Finish

Product #	<b>Component Description</b>	Parts/Wt	Parts/Vol (Ounces)
T0975/series	Polyurethane Finish	100	128
TX70	Hardener	50	64
TZ425 or TZ4223	Thinner Blend	10-30	10-30
Pot life: 3-4 hours			

Dry to handle: 30-40 minutes

Application: After 12 hours sand sealer with 320 sand paper. Blow the residue from the panel and then spray a normal 3-5 mil wet coat. Additional coats are not recommended after 3 hours. If necessary spray the additional coat wet on wet in the time window of 1 to 3 hours after the original coat. If recoating is necessary after 3 hours, sand extremely well with 320 paper first.

Tip size: 1.8

### **Clear Polyurethane - Wet Look System**

Step 1: Pf 5/series Stains for Color

Step 2:	Barrier	coat
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<u>Product #</u>	Component Description	Parts/Wt	Parts/Vol (Ounces)
TF25	Polyurethane Barrier Coat	100	128
TV19	Accelerator	5	8
TZ35	Thinner	25	32

Pot life: 3-4 hours

Dry to handle: 20 minutes

**Application:** A thin wash coat must be applied, allowed to dry for at least 2 hours, and then apply the polyester undercoat. If undercoat is not applied within 4 hours, the barrier coat must be allowed to cure 8 hours, then sanded to insure adhesion.

Tip size: 1.8 Air pressure: 35 lbs

### Step 3: Polyester Undercoat

Product #	Component Description	Parts/Wt	<u>Parts/Vol (Ounces)</u>
TG1323	Clear polyester undercoat	100	128
TVS5AA1*	Accelerator	2	2
TZ03	Thinner	10	15-30
Note: Mix extreme	ly well before adding catalyst		
TV84	Catalyst	2	2
*		بيمينام الابتمار متر	$\sim \sim $

\* Use 1 part TVS5AA1 in hot weather, it slows the cure, but always use 2 parts TV84.

Pot life: 30 - 60 minutes

Dry to handle: 1.5 - 2 hours

**Application:** Spray one very heavy coat (cross-hatch), let the undercoat dry for one hour and then spray an additional heavy coat (cross-hatch). If more than three hours dry, wait 12 hours and sand before recoating. Allow this wet-on-wet stage to dry 12 hours (at ambient temperature) before sanding. Note: <u>Never</u> mix the accelerator and catalyst together. **Dry to recoat:** 12 hours

Tip size: 2.5 Air pressure: 35 lbs

### Step 4: Polyurethane Finish

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TP60	Clear polyurethane finish	100	128
TX75	Hardener	100	128
TZ13**	Thinner	40	40

\*\*Use TZ13/TZ35 blend at 30/10 in cooler weather for faster dry. Use TZ4223 in hot humid weather to avoid pinholes and bubbles.

Pot life: 2 hours

Dry to handle: 2 hours

Buffing: 24 hours

**Topcoating with itself without sanding:** 30 minutes minimum - 3 hours maximum **Application:** First sand the sealer with a series of sand papers - 320 then 400. Spray one coat. This finish may be buffed if desired, but two coats may be neccesary to avoid rubbing through to undercoat. Wait at least 48-72 hours to buff

Tip size: 1.8 Air pressure: 35 lbs

### **Clear Polyester - Gloss Wet Look System**

Step 1: Barrier coat

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TF1525	Lo-Haps Barrier Coat	100	128
TV19	Accelerator	5	8
TZ35NH	Thinner	25	32

Pot life: 3-4 hours

Dry to handle: 20 minutes

**Application:** A thin wash coat must be applied, allowed to dry for at least 2 hours, and then apply the polyester undercoat. If undercoat is not applied within 4 hours, the barrier coat must be allowed to cure 8 hours, then sanded to insure adhesion.

**Tip size:** 1.8

Air pressure: 35 lbs

### Step 2: Polyester Undercoat

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)	
TG1323	Clear polyester undercoat	100	128	
TVS5AA1*	Accelerator	2	2	
TZ03	Thinner	10	15-30	
Note: Mix extremely well before adding catalyst				
TV84	Catalyst	2	2	

\* Use 1 part TVS5AA1 in hot weather, it slows the cure, but always use 2 parts TV84.

Pot life: 30 - 60 minutes

Dry to handle: 1.5 - 2 hours

**Application:** Spray one very heavy coat (cross-hatch), let the undercoat dry for one hour and then spray an additional heavy coat (cross-hatch). If more than three hours dry, wait 12 hours and sand before recoating. Allow this wet-on-wet stage to dry 12 hours (at ambient temperature) before sanding. Note: <u>Never</u> mix the accelerator and catalyst together. **Dry to recoat:** 12 hours

Tip size: 2.5

Air pressure: 35 lbs

### Step 3: Polyester Clear Gloss Finish Coat

Product #	Component Description	Parts/Wt	<u> Parts/Vol (Ounces)</u>			
TR9982	Clear Polyester Finish	100	128			
TVS5AA1	Accelerator	2	2			
TZ86	Thinner	20	32			
Note: Mix extremely	well before adding catalyst					
TV84	Catalyst	2	2			
Pot life: 30 - 60	Pot life: 30 - 60 minutes					

Pot life: 30 - 60 minutes

Dry to handle: 1 - 2 hours

**Application:** First sand the sealer with a series of sand papers - 320 then 400. Spray one coat (cross-hatch). This finish may be buffed if desired, but 2 coats may be neccesary to avoid rubbing through to undercoat. Note: Never mix the accelerator and catalyst together. Wait at least 48-72 hours to buff.

### Tip size: 1.8

### **Clear Polyester - Gloss Wet Look System**

Step 1: PF 5/series Stains for Color

Step 2: Barrier Coat				
<u>Product #</u>	Component Description	Parts/Wt	<u>Parts/Vol (Ounces)</u>	
TF25	Polyurethane Barrier Coat	100	128	
TV19	Hardener	10	13	
TZ50	Thinner	50	64	

Pot life: 2 hours Dry to handle: 20 minutes

**Application:** A thin wash coat must be applied, allowed to dry for at least 35 minutes, and then apply the polyester undercoat. If undercoat is not applied within 90 minutes, the barrier coat must be allowed to cure 4 hours, then sanded to insure adhesion.

Tip size: 1.8Air pressure: 35 lbs

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TG1323	Clear polyester undercoat	100	128
TVS5AA1	Accelerator	2	2
TZ03	Thinner	10	15-30
Note: Mix extreme	ly well before adding catalyst		
TV84	Catalyst	2	2
Pot life: 30 - 60 m	inutes		

Application: Spray one very heavy coat (cross-hatch), let the undercoat dry for one hour and then spray an additional heavy coat (cross-hatch). If more than three hours dry, wait 12 hours and sand before recoating. Allow this wet-on-wet stage to dry 12 hours (at ambient temperature) before sanding. Note: Never mix the accelerator and catalyst together. Tip size: 2.5 Air pressure: 35 lbs.

Step 4: Polyester Clear Gloss Finish Coat

Product #	<b>Component Description</b>	Parts/Wt	Parts/Vol (Ounces)
TR1688	Clear Polyester Finish	100	128
TVS5AA1	Accelerator	2	2
TZ86	Thinner	10	12-16
Note: Mix extremely	y well before adding catalyst		
TV84	Catalyst	2	2

Pot life: 30 - 60 minutes

Dry to handle: 1 - 2 hours

**Application:** First sand the sealer with a series of sand papers - 320 then 400. Spray one coat (cross-hatch). This finish may be buffed if desired, but 2 coats may be neccesary to avoid rubbing through to undercoat. Note: Never mix the accelerator and catalyst together. Wait at least 48-72 hours to buff.

Tip size: 1.8Air pressure: 35 lbs

### Pigmented Polyurethane Open Pore Finish

### Step 1: Polyurethane Sealer

Product #	Component Description	Parts/Wt	<u>Parts/Vol (Ounces)</u>
PAS901	White polyurethane primer	100	128
TX24*	Hardener	50	90
TZ33	Thinner	10-20	30
*UseTX19 for better elasticity		40	71
TZ33	Thinner	10-20	30

### Pot life: 2 hours

Dry to handle: 30-40 minutes

**Recoat:** 30 minute minimum to 3 hour maximum without sanding

**Application:** Spray on a coat of primer. If a second coat of primer is required it can be applied after 30- 60 minutes without sanding. If it is not applied within three hours, you must wait 20 hours, sand the primer with 320 paper, blow the residue from the panel, then apply the second coat of primer. Allow 20 hours cure time before sanding and top coating. **Tip size:** 1.8 **Air pressure:** 35 lbs

Step 2: Pol	vurethane	Series	Gloss	White	(or tinted	to color)
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Product #	Component Description	Parts/Wt	<u>Parts/Vol (Ounces)</u>
PM800	Gloss Polyurethanes	100	128
TX75	Hardener	80	128
TZ13**	Thinner	50	25-50

\*\*Use TZ4223 or TZ425 in hot humid weather to avoid pinholes and bubbles.

Pot life: 3-4 hours

Dry to handle: 1 hour

Dry to Stack: Over night

**Application:**First sand the primer with a series of sand papers - 320 then 400. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish. A second finish coat may be neccesary to avoid rubbing through to primer. Apply second finish coat in 1-3 hours without sanding. Wait at least 48 hours to buff.

Tip size: 1.8 Air pressure: 35 lbs

Step 2a: Polyurethane Series	Matte White	(or tinted to color)
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Product #	Component Description	Parts/Wt	<u> Parts/Vol (Ounces)</u>
PL800 Series	Matt or S/G Polyurethanes	100	128
TX75	Hardener	40	64
TZ13**	Thinner	15-30	30

\*\*Use TZ4223 or TZ425 in hot humid weather to avoid pinholes and bubbles.

### Pot life: 3-4 hours

Dry to handle: 1 hour

Dry to Stack: Over night

**Application:**First sand the primer with 320 sandpaper. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish.

Tip size: 1.8 Air pressure: 35 lbs

### Matte White Ultra Non-yellowing System

**Step 1:** *Polyurethane Sealer* 

Product #	<b>Component Description</b>	Parts/Wt	Parts/Vol (Ounces)
PA70	White polyurethane primer	100	128
TX19	Hardener	40	64
TZ33	Thinner	10 - 20	10 - 20

Pot life: 4 hours

Dry to handle: 30-40 minutes

Recoat: 12 hour minimum

**Application:** Spray on a coat of primer. If additional coats of primer are required they can be applied 60 minutes from previous coat without sanding. If not applied within four hours, you must wait 12 hours, sand the primer with 320 paper, blow the residue from the panel, then apply the next coat of primer. Allow 12 hours cure time before sanding and top coating.

Tip size: 1.8 Air pressure: 35 lbs

Step 2: White Acrylic Urethane

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)	
PL80	White Acrylic Urethane	100	128	
TX90	Hardener	25	40	
TZ13**	Thinner	50	90	
** Use TZ425 or TZ422	3 in hot humid weather to avoid pinholes	and bubbles.		
Pot life: 3 hours				
Dry to handle: 1 h	nour			
Dry to stack: Over night				
Application: First	sand the primer with 320 sand pap	per. Blow the	residue from the panel	

**Application:** First sand the primer with 320 sand paper. Blow the residue from the panel and spray a coat (cross-hatch) of the finish.

Tip size: 1.8

### Open and Closed Pore Gloss White Ultra Non-yellowing System

### Step 1: Polyurethane Sealer

Product #	<b>Component Description</b>	Parts/Wt	Parts/Vol (Ounces)
PAS901	White polyurethane primer	100	128
TX24*	Hardener	50	90
TZ33	Thinner	10 - 20	30
*UseTX19 for better ela	asticity,	40	71

### Pot life: 2 hours

Dry to handle: 30-40 minutes

**Recoat:** 30 minutes minimum to 3 hours maximum without sanding **Application:** Spray on a coat of primer. If a second coat of primer is required it can be applied after 30-60 minutes without sanding. If it is not applied within three hours, you must wait 20 hours, sand the primer with 320 paper, blow the residue from the panel, then apply the second coat of primer. Allow 20 hours cure time before sanding and top coating. **Tip size:** 1.8

Air pressure: 35 lbs

Step 2: White Acrylic Finish High Gloss

100	128
50	84
30	64

\*\* Use TZ425 or TZ4223 in hot humid weather to avoid pinholes and bubbles.

Pot life: 3 hours

Dry to handle: 1 hour

**Application:** First sand the primer with a series of sand papers - 320 then 400. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish. A second finish coat may be neccesary to avoid rubbing through to primer. Apply second finish coat in 3-5 hours without sanding. Wait at least 48 - 72 hours to buff.

### Tip size: 1.8

# White Polyester Closed-Pore System (matte)

Step 1: Barrier coat			
<u>Product #</u>	Component Description	Parts/Wt	Parts/Vol (Ounces)
TF25	Polyurethane Barrier Coat	100	128
TV19	Accelerator	5	8
TZ35	Thinner	25	32

Pot life: 3-4 hours

Dry to handle: 20 minutes

**Application:** A thin wash coat must be applied, allowed to dry for at least 2 hour, and then apply the polyester undercoat. If undercoat is not applied within 4 hours, the barrier coat must be allowed to cure 8 hours, then sanded to insure adhesion.

**Tip size:** 1.8

Air pressure: 35 lbs

### Step 2: Polyester Undercoat

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
PI40	White polyester undercoat	100	128
TVS5AA1*	Accelerator	2	2
TZ03	Thinner	10	32
Note: Mix extreme	ely well before adding catalyst		
TV80 or TV84	Catalyst	2	2
* Llag 1 mant TVCEAA	4 in bot woothow it alows the sume but a	lucava una O manta	T (00 ar T) (01

\* Use 1 part TVS5AA1 in hot weather, it slows the cure, but always use 2 parts TV80 or TV84

Pot life: 30 minutes when using TV80, 90 minutes when using TV84

### Dry to handle: 1.5 - 2 hour

**Application:** Spray one very heavy coat (cross-hatch), let the undercoat dry for one hour and then spray an additional heavy coat (cross-hatch). If more than three hours dry, wait 12 hours and sand before recoating. Allow this wet-on-wet stage to dry 12 hours (at ambient temperature) before sanding.

Note: Never mix the accelerator and catalyst together.

Dry to sand and recoat: minimum 12 hours

**Tip size:** 2.5

Air pressure: 35 lbs

Step 3:	Polyurethane	Matte	Finish
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Product #	Component Description	<u>Parts/Wt</u>	<u>Parts/Vol (Ounces)</u>
PL50	White Polyurethane	100	128
TX75	Hardener	40	50
TZ13**	Thinner	30	30

\*\* Use TZ425 or TZ4223 in hot humid weather to avoid pinholes and bubbles.

Pot life: 3-4 hours

Dry to handle: 1 hour

**Application:** First sand the sealer with 320 sand paper. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish.

**Tip size:** 1.8

# White Polyester Closed-Pore System (high gloss)

Step 1: Barrier coat			
Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TF25	Polyurethane Barrier Coat	100	128
TV19	Accelerator	5	8
TZ35	Thinner	25	32

Pot life: 3-4 hours

Dry to handle: 20 minutes

**Application:** A thin wash coat must be applied, allowed to dry for at least 2 hour s, and then apply the polyester undercoat. If undercoat is not applied within 4 hours, the barrier coat must be allowed to cure 8 hours, then sanded to insure adhesion.

Tip size: 1.8

Air pressure: 35 lbs

Step 2: Polyester Undercoat

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
PI40	White polyester undercoat	100	128
TVS5AA1*	Accelerator	2	2
TZ03	Thinner	10	32
Note: Mix extremely	y well before adding catalyst		
TV80 or TV84	Catalyst	2	2

\* Use 1 part TVS5AA1 in hot weather, it slows the cure, but always use 2 parts TV80 or TV84

Pot life: 30 minutes when using TV80, 90 minutes when using TV84

### Dry to handle: 1.5 - 2 hours

**Application:** Spray one very heavy coat (cross-hatch), let the undercoat dry for one hour and then spray an additional heavy coat (cross-hatch). If more than three hours dry, wait 12 hours and sand before recoating. Allow this wet-on-wet stage to dry 12 hours (at ambient temperature) before sanding. <u>Never mix the accelerator and catalyst together</u>.

### Dry to recoat: 12 hours

Tip size: 2.5

Air pressure: 35 lbs

Step 3: Polyurethane Gloss Finish

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
PM800	White Polyurethane	100	128
TX75*	Hardener	80	128
TZ13**	Thinner	50	25-50
* TV75 in non valle	wing		

\* TX75 is non-yellowing

\*\* Use TZ425 or TZ4223 in hot humid weather to avoid pinholes and bubbles.

Pot life: 3-4 hours

### Dry to handle: 1 hour

**Application:** First sand the sealer with a series of sand papers - 320 then 400. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish. A second finish coat may be neccesary to avoid rubbing through to undercoat. Apply second finish coat in 1-3 hours without sanding. Wait at least 48-72 hours to buff.

### Tip size: 1.8

### Closed Pore Ultra Non-yellowing Matte White MDF Application

### Step 1: Barrier coat

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TF25	Polyurethane Barrier Coat	100	128
TV19	Accelerator	5	8
TZ35	Thinner	25	32
Pot life: 3-4 hours			

Protine. 5-4 hours

Dry to handle: 20 minutes

**Application:** A thin wash coat must be applied, allowed to dry for at least 2 hour, and then apply the polyester undercoat. If undercoat is not applied within 4 hours, the barrier coat must be allowed to cure 8 hours, then sanded to insure adhesion.

Tip size: 1.8

Air pressure: 35 lbs

### Step 2: Polyester Undercoat

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
PI40	White polyester undercoat	100	128
TVS5AA1*	Accelerator	2	2
TZ03	Thinner	10	32
Note: Mix extremely	y well before adding catalyst		
TV80 or TV84	Catalyst	2	2

\* Use 1 part TVS5AA1 in hot weather, it slows the cure, but always use 2 parts TV80 or TV84

Pot life: 30 minutes when using TV80, 90 minutes when using TV84

### Dry to handle: 1.5 - 2 hours

**Application:** Spray one very heavy coat (cross-hatch), let the undercoat dry for one hour and then spray an additional heavy coat (cross-hatch). If more than three hours dry, wait 12 hours and sand before recoating. Allow this wet-on-wet stage to dry 12 hours (at ambient temperature) before sanding.

Note: Never mix the accelerator and catalyst.

Dry to sand and recoat: minimum 12 hours

### **Tip size:** 2.5

Air pressure: 35 lbs

Step 3: White Acrylic Urethane

<u>Product #</u>	<u>Component Description</u>	Parts/Wt	Parts/Vol (Ounces)
PL80	White Acrylic Urethane	100	128
TX90	Hardener	25	40
TZ13**	Thinner	50	90

\*\* Use TZ425 or TZ4223 in hot humid weather to avoid pinholes and bubbles.

### Pot life: 3 hours

Dry to handle: 1 hour

Dry to stack: Over night

**Application:** First sand the sealer with 320 sand paper. Blow the residue from the panel and spray a coat (cross-hatch) of the finish.

### **Tip size:** 1.8

### Closed Pore Ultra Non-yellowing Gloss White System MDF Applications

Step 1: Barrier coat				
Product #	Component Description	Parts/Wt	<u> Parts/Vol (Ounces)</u>	
TF25	Polyurethane Barrier Coat	100	128	
TV19	Accelerator	5	8	
TZ35	Thinner	25	32	
Det life, 2.4 hours	8			

Pot life: 3-4 hours

Dry to handle: 20 minutes

**Application:** A thin wash coat must be applied, allowed to dry for at least 2 hours, and then apply the polyester undercoat. If undercoat is not applied within 4 hours, the barrier coat must be allowed to cure 8 hours, then sanded to insure adhesion.

Tip size: 1.8 Air pressure: 35 lbs

### Step 2: Polyester Undercoat

Component Description	Parts/Wt	Parts/Vol (Ounces)
White polyester undercoat	100	128
Accelerator	2	2
Thinner	10	32
y well before adding catalyst		
Catalyst	2	2
	White polyester undercoat Accelerator Thinner y well before adding catalyst	White polyester undercoat100Accelerator2Thinner10v well before adding catalyst

\* Use 1 part TVS5AA1 in hot weather, it slows the cure, but always use 2 parts TV80 or TV84

Pot life: 30 minutes when using TV80, 90 minutes when using TV84

### Dry to handle: 1.5 - 2 hours

**Application:** Spray one very heavy coat (cross-hatch), let the undercoat dry for one hour and then spray an additional heavy coat (cross-hatch). If more than three hours dry, wait 12 hours and sand before recoating. Allow this wet-on-wet stage to dry 12 hours (at ambient temperature) before sanding.

Note: Never mix the accelerator and catalyst.

Dry to sand and recoat: minimum 12 hours

Tip size: 2.5 Air pressure: 35 lbs

### **Step 3:** White Acrylic Finish High Gloss

<u>Product #</u>	<u>Component Description</u>	Parts/Wt	Parts/Vol (Ounces)
PM80	Gloss white acrylic urethane	100	128
TX90	Hardener	50	84
TZ13**	Thinner	30	64
** 1100 T7405 or T	74000 in bot burnid we athen to evoid ninbal	a a and hubbles	

\*\* Use TZ425 or TZ4223 in hot humid weather to avoid pinholes and bubbles.

### Pot life: 3 hours

Dry to handle: 1 hour

**Application:** First sand the sealer with a series of sand papers - 320 then 400. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish. A second finish coat may be neccesary to avoid rubbing through to undercoat. Apply second finish coat in 3-5 hours without sanding. Wait at least 48 - 72 hours to buff.

Tip size: 1.8 Air pressure: 35 lbs

### Black Polyester Closed Pore Matte System

### Step 1: Barrier coat

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TF25	Polyurethane Barrier Coat	100	128
TV19	Accelerator	5	8
TZ35	Thinner	25	32

Pot life: 3-4 hours

Dry to handle: 20 minutes

**Application:** A thin wash coat must be applied, allowed to dry for at least 2 hour, and then apply the polyester undercoat. If undercoat is not applied within 4 hours, the barrier coat must be allowed to cure 8 hours, then sanded to insure adhesion.

**Tip size:** 1.8

Air pressure: 35 lbs

### Step 2: Polyester Undercoat

Product #	Component Description	Parts/Wt	<u> Parts/Vol (Ounces)</u>
PI29	Black polyester undercoat	100	128
TVS5AA1*	Accelerator	2	2
TZ03	Thinner	10	20
Note: Mix extrer	mely well before adding catalyst		
TV84	Catalyst	2	2
* Lise 1 part T\/S5/	A1 in hot weather it slows the cure but a	lwave use 2 parts	T\/8/

\* Use 1 part TVS5AA1 in hot weather, it slows the cure, but always use 2 parts TV84

Pot life: 30 - 60 minutes

### Dry to handle: 1.5 - 2 hours

**Application:** Spray one very heavy coat (cross-hatch), let the undercoat dry for one hour and then spray an additional heavy coat (cross-hatch). If more than three hours dry, wait 12 hours and sand before recoating. Allow this wet-on-wet stage to dry 12 hours (at ambient temperature) before sanding. <u>Never mix the accelerator and catalyst together</u>.

### Dry to recoat: 12 hours

**Tip size:** 2.5

Air pressure: 35 lbs

### Step 3: Polyurethane Matte Black Finish

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
PL59	Black Polyurethane	100	128
TX50	Hardener	50	64
TZ13**	Thinner	25	32

\*\* Use TZ425 or TZ4223 in hot humid weather to avoid pinholes and bubbles.

### Pot life: 3 hours

Dry to handle: 1 hour

**Application:** First sand the sealer with 320 sand paper. Blow the residue from the panel and then spray a coat (cross-hatch) of the finish.

**Tip size:** 1.8

# Black Polyester Closed-Pore System (high gloss)

### Step 1: Barrier coat

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TF25	Polyurethane Barrier Coat	100	128
TV19	Accelerator	5	8
TZ35	Thinner	25	32

Pot life: 3-4 hours

Dry to handle: 20 minutes

**Application:** A thin wash coat must be applied, allowed to dry for at least 2 hours, and then apply the polyester undercoat. If undercoat is not applied within 4 hours, the barrier coat must be allowed to cure 8 hours, then sanded to insure adhesion.

Tip size: 1.8

Air pressure: 35 lbs

### Step 2: Polyester Undercoat

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
PI29	Black polyester undercoat	100	128
TVS5AA1*	Accelerator	2	2
TZ03	Thinner	10	20
Note: Mix extremel	y well before adding catalyst		
TV84	Catalyst	2	2

\* Use 1 part TVS5AA1 in hot weather, it slows the cure, but always use 2 parts TV84

Pot life: 30 - 60 minutes

Dry to handle: 1.5 - 2 hours

**Application:** Spray one very heavy coat (cross-hatch), let the undercoat dry for one hour and then spray an additional heavy coat (cross-hatch). If more than three hours dry, wait 12 hours and sand before recoating. Allow this wet-on-wet stage to dry 12 hours (at ambient temperature) before sanding. <u>Never mix the accelerator and catalyst together</u>.

Dry to recoat: 12 hours

**Tip size:** 2.5

Air pressure: 35 lbs

### Step 3: Polyester Gloss Finish

Component Description	<u>Parts/Wt</u>	<u> Parts/Vol (Ounces)</u>
Gloss Black Polyester	100	128
Polyester Accelerator	2	2
Polyester Thinner	20	32
before adding catalyst		
Catalyst	2	2
	Gloss Black Polyester Polyester Accelerator Polyester Thinner pefore adding catalyst	Gloss Black Polyester100Polyester Accelerator2Polyester Thinner20pefore adding catalyst20

### Pot life: 3-4 hours

Dry to handle: 1 hour

**Application:** First sand the sealer with a series of sand papers - 320 then 400. Spray one coat (cross-hatch). This finish may be buffed if desired, but 2 coats may be necessary to avoid rubbing through to the undercoat. Note:Never mix the accelerator and catalyst together. Wait at least 48-72 hours to buff.

### Tip size: 1.8

### **Bar Tops and Table Tops**

Step 1: PF 5/series Stains for color

Step 2: Barrier coat (Exotic Oily Dark Woods)

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TF25	Polyurethane Barrier Coat	100	128
TV19	Accelerator	5	8
TZ35	Thinner	25	32

Pot life: 3-4 hours

Dry to handle: 20 minutes

**Application:** A thin wash coat must be applied, allowed to dry for at least 2 hours, and then apply the polyester undercoat. If undercoat is not applied within 4 hours, the barrier coat must be allowed to cure 8 hours, then sanded to insure adhesion.

Tip size: 1.8

Air pressure: 35 lbs

**Step 3:** Clear Polyester to be Buffed. Gives excellent build, high gloss wet look on horizontal surfaces. It must not be used on vertical positions. For vertical application use only TC-11. Two coats of TC-12 will give build sufficient to completely encase a coin the size of a quarter.

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
TC11	Clear Polyester	100	128
TVS5AA1*	Accelerator	2	3
TZ80	Thinner - Styrene	10	15
TV80	Catalyst	2	2

\* Use 1 part TVS5AA1 in hot weather, it slows the cure, but always use 2 parts TV80

### Pot life: 30 minutes

Dry to handle: 1 hour

**Application:** Spray 2 very heavy coats (cross-hatch) up to 12 mils wet. Allow the polyester to set up for 30 - 60 minutes between all additional coats. The polyester must cure 24 hours minimum before sanding and buffing. Sand with a series of sand papers, 180, 220, 320, 600 and buff.

**NOTE:** Pigmented systems, ILVA PZ 6/series colorant pastes are available.

### Pearlescent Acrlyic Urethane Finish

Step 1: Polyester Undercoat			
Product #	Component Description	Parts/Wt	<u>Parts/Vol (Ounces)</u>
PI40	White polyester undercoat	100	128
TVS5AA1*	Accelerator	2	2
TZ03	Thinner	10	32
Note: Mix extremely well before adding catalyst			
TV80 or TV84 Cataly	st	2	2

\* Use 1 part TVS5AA1 in hot weather, it slows the cure, but always use 2 parts TV80 or TV84

Pot life: 30 minutes when using TV80, 3-4 hours when using TV84

### Dry to handle: 1.5 - 2 hour

**Application:** Spray one very heavy coat (cross-hatch), let the undercoat dry for one hour and then spray an additional heavy coat (cross-hatch). If more than three hours dry, wait 12 hours and sand before recoating. Allow this wet-on-wet stage to dry 12 hours (at ambient temperature) before sanding.

Note: Never mix the accelerator and catalyst together.

Dry to sand and recoat: minimum 12 hours

Tip size: 2.5 Air pressure: 35 lbs

### Step 2: Polyurethane Color Coat (PL50 White used as example)

Product #	Component Description		Parts/Vol (Ounces)
PL50	White Polyurethane	100	128
TX75	Hardener	40	64
TZ13**	Thinner	30	30
****			

\*\*Use TZ425 or TZ4223 in hot humid weather to avoid pinholes and bubbles.

Pot life: 3-4 hours

Dry to handle: 1 hour

**Application:** First sand the undercoat with 320, then 400 sand paper. Blow the residue from the panel and then spray a coat (cross-hatch) of the color coat.

Tip size: 1.8 Air pressure: 35 lbs

### **Step 3:** *Pearlescent Acrylic Urethane Finish*

Product #	Component Description	Parts/Wt	Parts/Vol (Ounces)
PU1252	Pearlescent Acrylic Urethane Finish	100	128
TX90	Curing Agent	20	26
TZ4223	Thinner	20-30	20-30

Pot life: 4 hours

Dry to handle: 2 hours

**Application:** Allow Polyurethane color coat to dry 1 hour and spray a generous coat (cross hatch) of the Pearlescent Acrylic Urethane.

Tip size: 1.8Air pressure: 35 lbs

Step 4: Acrylic/Polyurethane Finish (gloss)

Product #	Component Description	Parts/Wt	<u>Parts/Vol (Ounces)</u>
TP11	Acrylic/Polyurethane Finish	100	128
TX90	Hardener	20	26
TZ13**	Thinner	25-50	20-30
** ** ***			

\*\* Use TZ425 or TZ4223 in hot humid weather to avoid pinholes and bubbles.

### Pot life: 7 hours

Dry to handle: 1 hour

**Application:** Allow Pearlescent Acrylic Urethane to dry 3 - 4 hours and spray a coat (cross hatch) of the finish. This finish may be buffed if desired. Additional coats may be needed to avoid rubbing through to pearlescent. These coats should be applied wet-on-wet with 2-4 hours between coats. For a harder finish use 5% additional TX90 hardener. Wait at least 48-72 hours to buff.

Tip size: 1.8Air pressure: 35 lbs

CODE	USE & DSCRIPTION	PROPERTIES	REACTIVITY
TX11	PU Sealers (TA03, TA44, TA48)	Good fill, HAPS Compliant	Medium
TX19	PU Sealers (TA03, TA44, TA48, PA20, PA70)	Good fill, Very elastic	Medium Slow
TX24	PU Clear Sealers & Topcoats	General use, Yellows, Dark Woods, More elastic than TX50	Medium Fast
TX50	PU Clear Sealers & Topcoats	General Use, Yellows, Dark Woods, HAPS Compliant	Fast
TX70	PU Clear (T0 9/SERIES, T0975/SERIES)	Less yellowing & harder than TX24 and TX50	Medium Fast
ТХ72	PU Clear and Pigmented Topcoats	Less yellowing & harder than TX24 and TX50	Fast
TX75	PU Clear and Pigmented Topcoats	Max. Non-yellowing, Color brightness, Hardness, Flexible	Medium
TX276	PU Clear and Pigmented Topcoats	Max. Non-yellowing, Color brightness, Hardness, Flexible, higher conc.vs.TX75, HAPS compliant	Medium
TX90	All Acrylic Urethane	Max. Non-Yellowing, Very flexible	Slow
ТХ92	All Acrylic Urethane	Max. Non-Yellowing, Very flexible	Medium Slow
TX95	Solvent UV roller sealers	For improved wetting properties on some difficult wooden substrates	-
ТХ97	Solvent UV roller sealers	For improved wetting properties on some difficult wooden substrates	-
TX1939	All Acrylic Urethane	Max. Non-Yelllowing, Very flexible, HAPS Complaint	Slow
TX168	All Acrylic Urethane	Max. Non-Yelllowing, Very flexible, HAPS Complaint, HighSolids; can be used to replace TX90 or TX1939 at 1/2 the level of hardener	Slow

# **ILVA TX - POLYURETHANE HARDENERS**

## **ICS-ILVA THINNERS**

CODE	DESCRIPTION & USE	SPEED OF DRY
TZ03	Polyester series PI, TG, TR	Very Fast
TZ08	Stain PF 5 series (Buytl Cellosolve) (use in addition to other solvents)	Retarder
TZ10	Polyurethane Retarder (use in addition to other solvents)	Very Slow
TZ13	Polyurethane Thinner	Middle Slow
TZ13NH	Polyurethane Thinner No Haps	Middle Slow
TZ14	Polyurethane Thinner	Very Slow
TZ14NH	Polyurethane Thinner No Haps	Very Slow
TZ1836	PF 5 Stain Series Reducer for Spray	Middle
TZ33	Polyurethane Thinner, Best for Sealers	Middle Fast
TZ33NH	Polyurethane Thinner No Haps, Best for Sealers	Middle Fast
TZ35	Polyurethane Thinner	Middle Fast
TZ35NH	Polyurethane Thinner, No Haps	Middle Fast
TZ50	Polyurethane Thinner, Polyester Thinner	Fast
TZ80	Polyester TC series Reactive Styrene	Middle Slow
TZ86	Polyester TR/series	Middle Fast
TZ90	Mineral Spirits	Middle Slow
TZ418	Polyurethane Retarder (use in addition to other solvents)	Very Slow
LT4040	Lacquer Thinner	Middle
LT1010	Blush Retardign Lacquer Thinner	Slow
TZ4223	Polyurethane (Summer) and/or High Humidity	Slow
TZ425	Polyurethane (Summer) and/or High Humidity	Very Slow
TZ1042	N-Butyl Acetate Polyurethane Thinner	Middle Slow
TZS006	Polyurethane Thinner Low VOC	Middle Fast
TZS007	Ultra Polyurethane Thinner Low VOC	Middle Slow
TZS008	Slow Polyurethane Thinner Low VOC	Slow

Generally speaking the use of slower solvents or NoHaps solvents increases the gloss levels slightly

# ILVA

# TECHNICAL DATA SHEETS

IC & S P.O. Box 10845, Lancaster, PA 17605 (800) 220-4035

PRODUCT CODE:	PA 39			
DESCRIPTION:	Black Polyurethane Undercoa	at		
USES:	Undercoat for polyurethane pigmented	systems, s	uitable for	chairs, mouldings, etc.
PRODUCT PREPARATION:	PA39 Polyurethane Undercoat TX19 Hardener TZ33 Thinner	<u>Parts by</u> 100 40 10 - 20	<u>weight</u>	Parts by volume (ounces) 128 66 15-25
APPLICATION SYSTEM:	Spray			
QUANTITY(grsq mt):	120 - 140 per coat (4.8 wet mils)			
COATS:	One or more			
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity** Solids by Weight, %, as supplied Solids by Weight, %, ready to use Pot Life, hours at 20°C/68°F * ASTM D1200 (Ford) #8 at 20°C/68°F ** ASTM D1200 (Ford) #4 at 20°C/68°I			1.23 +/- 0.05 22 +/- 2 sec 15 +/- 2 sec 65 +/-2 54 +/- 2 4
DRYING TIME: (at 20°C/68°F)	Dust Free Dry to touch Sandable Maximum time between layers wtihout Topcoating		20 minute 50 minute after 4 ho 1-3 hours 24 hours	es ours
TYPICAL SYSTEMS:	Substrate			Various woods
	Chairs. matte           PA39/TX19         1-2 coats           PL59/TX24         1 coats           Chairs. gloss	S		120 gr/sq.mt. per coat (4.8 wet mils) 120 gr/sq.mt. (4.8 wet mils) 120 gr/sq.mt. per coat (4.8 wet mils) 120 gr/sq.mt. (4.8 wet mils)
SHELF LIFE:	18 Months			
STORAGE:	Store in a tightly closed container at roo and foreign material.	om tempera	atures (18	-25 °C/64 -75 °F) and protect from moisture
DATE OF ISSUANCE:	03 - 97; Revised 12-13, 5-16, 10-17, 7-	20, 11-20,	12-20, 5-2	2

### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

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### PRODUCT CODE: PA70

DESCRIPTION:	POLYURETHANE UNDERCOAT, WHITE				
USES:	Flat panels and mouldings su	Flat panels and mouldings suitable even for polyurethane foam.			
PRODUCT PREPARATION:	PA70 TX19 TZ33 Thinner	<u>Parts by</u> 100 40 10 - 20	<u>weight</u>	<u>Parts by volume (ounces)</u> 128 64 10 - 30	
APPLICATION SYSTEM:	Spray				
QUANTITY(grsq mt):	120 - 140 per coat (4.8 - 5.6 wet mils)				
COATS:	One to four				
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Appl.Viscosity** Solids by Weight, %, as supp Solids by Weight, %, ready to Pot Life, hours at 20°C/68°F * DIN 53211 Nr.6 at 20°C/68° ** DIN 53211 Nr.4 at 20°C/68	use F		1.395+/-0.05 36+/-2 sec. 15+/-2 sec. 68+/-2 56+/-2 5 hours	
DRYING TIME: (at 20°C/68°F)	1- 6 hours between coats 24 hours before sanding				
TYPICAL SYSTEMS:	SYSTEM NR 1         Substrate:       various woods         Sealer:       PA70 - two or three coats - 1 day drying-sanding-120 gr/sqmt/coat         Finish:       PL - white pgimented matt finish PM - white pigmented glossy finish         SYSTEM NR 2 Substrate:       MDF PA70 - two or three coats- 1 day drying-sanding-120 gr/sqmt per coat			ish finish lay drying-sanding-120 gr/sqmt per coat	
SHELF LIFE:	Finish: 18 Months	PL - white pigmente	eu matte/s		
STORAGE:	Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material.				
DATE OF ISSUANCE:	03 - 97, Revised 12-13, 5-16,	10-17, 4-19, 7-20, 1	2-20		

EVERY REASONABLE PRECAUTION IS TAKEN IN THE MANUFACTURE OF OUR PRODUCTS TO INSURE THAT THEY COMPLY WITH OUR STANDARDS. INFORMATION GIVEN IS CORRECT TO THE BEST OF OUR KNOWLEDGE. ANY SUGGESTIONS MADE BY US COVERING THE USE OF OUR PRODUCTS ARE BASED ON EXPERIENCE AND/OR TESTS BELIEVED TO BE RELIABLE. HOWEVER, BECAUSE THE USE OF ANY PRODUCT OF OUR MANUFACTURE IS COMPLETELY BEYOND OUR CONTROL. INCLUDING FOR EXAMPLE, THE METHOD AND CONDITIONS OF APPLICATION, NO GUARANTEE OR WARANTY, EX-PRESSED OR IMPLIED, IS MADE. MANUFACTURE'S MAXIMUM LIABILITY SHALL BE TO REPLACE SUCH QUANTITY OF PRODUCT DETERMINED BY OUR LABORATORY TO BE DEFECTIVE. USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR HIS INTENDED USE AND ASSUME ALL RISK AND LIABILITY IN CONNECTION THEREWITH.

PRODUCT CODE:	PAS5AB3		
DESCRIPTION:	White Hi Hide 2K Poly Primer		
USES:	Undercoat for polyurethane pigmented systems,	suitable for furniture	s in general.
PRODUCT PREPARATION:	PAS5AB3 White Hi Hide 2K Poly\ Primer TX 19 Hardener TZ 33 Thinner	<u>Parts by weight</u> 100 30 10	<u>Parts by volume (ounces)</u> 128 64 19
APPLICATION SYSTEM:	Spray		
QUANTITY(grsq mt):	120 - 140 per coat (4.8-5.6 wet mils)		
COATS:	One or more		
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity** Solids by Weight, %, as supplied Solids by Weight, %, ready to use Pot Life, hours at 20°C/68°F * ASTM DIN 53211 mm 8 at 20°C/68°F ** ASTM D1N53211 mm 4 at 20°C/68°F	1.634 + 30 +/- 3 15 +/- 2 72.3 +/- 61.7 +/- 6	sec 2
DRYING TIME: (at 20°C/68°F)	Dust Free Dry to Touch Sandable after Overcoat time Overcoat between layers Maximum time between layers without sanding Complete drying at room temperature	10 minutes minim 20 hours minutes 4 hours 12 hours 1 hour 4 hours 12 hours 12 hours	um
TYPICAL SYSTEMS:	Substrate: Sealer: Finish	Various woods PAS5AB3 PL800 Series	1-2 coats 1-2 coats
SHELF LIFE:	24 Months		
STORAGE:	Store in a tightly closed container at room tempe and foreign material.	ratures (18 -25 °C/64	4 -75 °F) and protect from moisture
DATE OF ISSUANCE:	1-2023		

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### PRODUCT CODE: PAS901

DESCRIPTION:	White Polyurethane P	Primer			
USES:	Undercoat for polyurethane pigmented systems. High resin content with good shrink resistance and elasticity. Excellent under high gloss poly.				
PRODUCT PREPARATION:	PAS901 White Polyurethan TX 24 Hardener TZ 33 Thinner *Use TX19 for better elasticit		<u>Parts by we</u> 100 50 10 - 20 40		Parts by volume (ounces) 128 90 30 71
APPLICATION SYSTEM:	Spray	-			
QUANTITY(grsq mt):	130 - 150 per coat (4.5-5.2 w	vet mils)			
COATS:	One or more				
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity** Solids by Weight, %, as supp Solids by Weight, %, ready to Pot Life, hours at 20°C/68°F * ASTM D1200 (Ford) #8 at ** ASTM D1200 (Ford) #4 at	o use 20°C/68°F	2 2 7	.35 +/- 0. 0 +/- 2 se 0 +/- 2 se 1 +/- 2 5.5 +/- 2	ec ec
DRYING TIME: (at 20°C/68°F)	Dust Free Dry to touch Recoating with itself Sandable Sanding & Topcoating		30 30 33 34		
TYPICAL SYSTEMS:	Gloss finish (white) PAS901/TX24 PM800/TX75 Matte finish (white) PAS901/TX24 PL800 series/TX75	1 or 2 coats 1 coat 1 or 2 coats 1 coat	1:	50 gr/sq. 30 gr/sq.	mt. per coat (4.2 wet mils) mt. (6 wet mils) mt. per coat (4.2 wet mils) mt. (6 wet mils)
SHELF LIFE:	18 Months	i coat	1	50 gi/sq.	
STORAGE:	Store in a tightly closed conta and foreign material.	ainer at room temper	atures (18 -2	5 °C/64 -	75 °F) and protect from moisture
DATE OF ISSUANCE:	3-06-2023				

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PRODUCT CODE:	PD 3/93			
DESCRIPTION:	Vehicle for wipe stains and glazes			
USES:	Use as a vehicle for glaze and stain. Cabinets a	nd assembled furniture.		
PRODUCT PREPARATION:	Mix 1:1 with the basis color series PL5. Mix 60:40 with PZ3/colors and then add TZ08 to improve wiping. May be used with PF5/Series Universal Stains.			
APPLICATION SYSTEM:	Spray and wipe			
QUANTITY(grsq mt):	50 - 60 (2-2.4 wet mils)			
COATS:	One			
GENERAL PROPERTIES:	Specific Gravity, gr/cc Solids by Weight,%, as supplied Viscosity*	0.92 +/- 0.2 13 +/- 1 13 - 15 sec		
	* DIN53211 #4 at 20°C/68°F			
DRYING TIME: (at 20*C/68*F)	Handling:	16 - 24 hours		
TYPICAL SYSTEMS:	Substrate PD3/93/PL5series (24 hours drying)	Various woods (walnut, ash, etc.)		
	TA series sealer TO series finish			
NOTES:	We advise removal of excess stain so adhesion of vides excellent workability to stain color bases.	of the next coat will not be effected. The vehicle pro-		
SHELF LIFE:	One year			
STORAGE:	Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material.			
DATE OF ISSUANCE:	03 - 97 Revised 12-00, 5-16			

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PRODUCT CODE:	PF 5/Series					
DESCRIPTION:	Universal stains					
USES:	Staining of furniture, frames, panels. Can be used by spray and roller, and diluted with solvent or water. Product should not be used without dilution.					
PRODUCT PREPARATION:	PF 5/series Stain TZ03 or TZ1836 Thinne PD3/93 Vehicle PF91 Vehicle Spray application (water	er e e		50-100 p Add 10% Add 10%	6 - 40% to	
	PF 5/ series Stain Water			50-100 p	by weight parts by we	sight
	PF95 Vehicle	9		Add 10%	6 - 40% to	above mixture
	Thinners available TZ03 TZ35 TZ1836 TZ07 TZ08 TZ32			for spray for spray for spray can be a wiping, v	/ applicatio / applicatio / and roller	application her solvents for deep wetting and Iry
APPLICATION SYSTEM:	Spray or roller					
QUANTITY(grsq mt):	50 - 60 (2-2.4 wet mils)					
COATS:	One					
GENERAL PROPERTIES:	Specific Gravity, gr/cc         0.97 +/- 0.05           Viscosity*         10 +/- 2 sec           * ASTM D1200 (Ford) #4 at 20°C/68°F         10 +/- 2 sec					
DRYING TIME: (at 20*C/68*F)	Handling and topcoating, solvent systems30 - 60 secHandling and topcoating, water systems8 hours minimum					
(tunnel 60*c or IR oven)	Handling and topcoating, solvent systems10 secHandling and topcoating, water systems20 minutes minimum			Im		
AVAILABLE COLORS:	PF50* White PF55 Red PF59 Black PF5T05 Medium walnut PF5T01 Honey PF5K18* Wenge *PF50 & PF5K18 can be u	PF5T02 PF5WB1		Reducible	PF5T08 Wenge	Orange Blue White for water based systems Mahogany Rosewood
SHELF LIFE:	18 Months					
STORAGE:	Store in a tightly closed con and foreign material.	ntainer at roo	om temper	atures (18	-25 °C/64	-75 °F) and protect from moisture
DATE OF ISSUANCE:	03 - 97 Latest Revision 5-	13, 5-16, 9-1	6, 7-20			

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PRODUCT CODE:	PG 1/series				
DESCRIPTION:	Stains for spray, wipe a	nd rollcoat applications			
USES:	Pigment stain concentrates for maximum light fastness.				
PRODUCT PREPARATION:	TZ33NH Thinner PF91 Vehicle <u>Thinners selection:</u> TZ33NH Specific for spray an TZ14 For deep wetting and				
APPLICATION SYSTEM:	Spray and wipe				
QUANTITY(grsq mt):	10 - 30 (.4-1.2 wet mils)				
COATS:	One				
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity*	1.00 +/- 0.05 15 +/- 2 sec			
	* ASTM D1200 (Ford) #4 at 20	°C/68°F			
DRYING TIME: (at 20°C/68°F)	Handling and topcoating:	30 - 60 sec			
(tunnel 60°C or IR oven)	Handling and topcoating:	10 sec			
COLORS AVAILABLE:	PG10WhitePG11YellowPG13Yellow oxidPG14OrangePG15RedPG18BluePG19BlackPG1/Z01Green	e			
SHELF LIFE:	18 Months				
STORAGE:	Store in a tightly closed contair and foreign material.	er at room temperatures (18 -25 $^\circ\text{C}/64$ -75 $^\circ\text{F})$ and protect from moisture			
DATE OF ISSUANCE:	03 - 97 Revised 4-08, 5-16, 7-2	0			

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### PRODUCT CODE: PI 29

DESCRIPTION:	Unsaturated Polyester Black Undercoat						
USES:	Sanding sealer for MDF flat and shaped panels, doors etc. Can be topcoated with matte and gloss polyurethane finshes.						
PRODUCT PREPARATION:	PI29 Black polyester undercoat TVS5AA1 Accelerator* TV84 Long pot life catalyst TZ03 Thinner *use 1 part TVS5AA1 in hot we	2 2 5 - 15	Parts by volume (ounces) 128 2 2 20 er				
APPLICATION SYSTEM:	Double component spray equipment is recommended.						
QUANTITY(grsq mt):	150 - 200 per coat (6-8 wet mils)						
COATS:	2 to 3						
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity** Solids by Weight, % Pot Life, minutes at 20°C/68°F *DIN 53211 Nr.4 at 20°C/68°F **DIN 53211 Nr.4 at 20°C/68°F	1.27 +/05 30 +/-2 sec 30-35 sec 92 +/-2 30-40					
DRYING TIME: (at 20*C/68*F)	Gel time, between coats, minutes For sanding and topcoating, hours		20-30 minimum 24 minimum				
TYPICAL SYSTEMS:	Substrate		MDF				
	PI29/TVS5AA1/TV84 2 PM19/TX276 2 Matte Finish TF25/TV19 PI29/TVS5AA1/TV84 2	1 coat 2 - 3 coats 2 coats 1 coat 2 - 3 coats 1 coat	40 gr/sq.mt. (1.6 wet mils) 150/200 gr/sq.mt. per coat (6-8 wet mils) 150 gr/sq.mt. (6 wet mils) 40 gr/sq.mt. (1.6 wet mils) 150/200 gr/sq.mt. per coat (6-8 wet mils) 150 gr/sq.mt. (6 wet mils)				
SHELF LIFE:	12 Months						
STORAGE:	Store in a tightly closed container at room temperatures (18-25°C/64-75°F) and protect from moisture and f foreign material.						
DATE OF ISSUANCE:	06-10, Revised 12-13, 5-16, 7-20, 12-20, 5-22, 5-23						
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PRODUCT CODE:	PI 40					
DESCRIPTION:	Unsaturated Polyester White Undercoat					
USES:	Sanding sealer for MDF flat and shaped panels, doors, etc. Can be topcoated with matte and gloss polyurethane finishes, or with gloss polyester.					
PRODUCT PREPARATION:	PI40 White Polyester Undercoat TVS5AA1* Accelerator TV84 Long pot life catalyst TZ03 Thinner * Use 1 part TVS5AA1 in hot weather, 2 parts in a		Parts by weight 100 2 2 10-20 cold weather	<u>Parts by volume (ounces)</u> 128 2 2 32		
APPLICATION SYSTEM:	Double component spray equipment is recommended.					
QUANTITY:	150 - 200 per coat (gr sq mt) (6-8 wet mils)					
COATS:	2 to 3					
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity, DIN 53211 #8 at 20°C/68°F Application Viscosity* Solids by Weight, % Pot Life, hours at 20°C/68°F *ASTM D1200 (Ford) #4 at 20°C/68°F		1.39 +/-0.05 18 +/- 2 sec 18-30 secs 85 +/- 2 90 minutes			
DRYING TIME: (at 20*C/68*F)	Between coats, minutes: Between coats, hours: For sanding and topcoating, hours:		30 minimum 3 maximum 24 minimum			
TYPICAL SYSTEMS:	Substrate:		MDF			
	<u>Gloss Finish</u> TF25/TV19 PI40/TVS5AA1/TV84 PM800/TX75	1 coat 2-3 coats 1 coat	40 gr/sq mt (1.6 w 150/200 gr/sq mt ( 150 gr/sq mt. (6 w	per coat) (6-8 wet mils)		
	<u>Matte Finish</u> TF25/TV19 PI40/TVS5AA1/TV84 PL50/TX75	1 coat 2-3 coats 1 coat	40 gr/sq mt (1.6 w 150/200 gr/sq mt ( 150 gr/sq mt. (6 w	per coat) (6-8 wet mils)		
SHELF LIFE:	12 Months					
STORAGE:	Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material.					
DATE OF ISSUANCE:	03 - 97 Revised 12-13, 5-16, 7-20, 12-20, 5-23					

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PRODUCT CODE:	PI 64					
DESCRIPTION:	White Styrene-Free Polyally	/ Sealer				
USES:	Furniture, flat and shaped panels, shutters, doors and every kind of structure where a full-filled solution is required (matt or glossy)					
PRODUCT PREPARATION:	PI64 White Styrene-Free Polyester TVS5AA1* Accelerator TV84 Long pot life catalyst TZ03 Thinner * Use 1 part TVS5AA1 in hot weather		Parts by weight 100 2 2 10-20 old weather	Parts by volume (ounces) 128 2 2 32		
APPLICATION SYSTEM:	Double component spray equipment is recommended.					
QUANTITY:	200- 250 per coat (gr sq mt) (8-10 we	et mils)				
COATS:	2 to 3					
GENERAL PROPERTIES:	Specific Gravity, gr/cc         1.46 +/-0.02           Viscosity, DIN 53211 #8 at 20°C/68°F         21 +/- 2 sec           Application Viscosity*         25-35 secs           Solids by Weight, %         80 +/- 2           Pot Life, hours at 20°C/68°F         90 minutes					
	*DIN 53211 mm 4 at 20°C/68°F					
DRYING TIME: (at 20*C/68*F)	Between coats, minutes: Between coats, hours: For sanding and topcoating, hours: Best sanding results obtained by first	t using 220-2	30 minimum 3 maximum 24 minimum 80 grit and then san	ding with 320-400		
TYPICAL SYSTEMS:	Substrate:		MDF and Solid Wo	oods		
	Gloss Finish TF25/TV19         1 coat           PI64/TVS5AA1/TV84         2-3 co           PM800/TX75         1 coat           Matte Finish TF25/TV19         1 coat           PI64/TVS5AA1/TV84         2-3 co           PI64/TVS5AA1/TV84         2-3 co           PL60/TX75         1 coat	ats	40 gr/sq mt 200/250 gr/sq mt 150 gr/sq mt 40 gr/sq mt 200/250 gr/sq mt ( 150 gr/sq mt.			
SHELF LIFE:	12 Months					
STORAGE:	Store in a tightly closed container at r and foreign material.	room temper	atures (18 -25 °C/64	-75 $^\circ\text{F})$ and protect from moisture		
DATE OF ISSUANCE:	01-14, Revised 7-20, 12-20, 5-23					
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PRODUCT CODE:	PL 50					
DESCRIPTION:	Polyurethane White S	Polyurethane White Satin Finish				
USES:	Polyurethane white matte top assembled furniture.	Polyurethane white matte topcoats, suitable for open and closed grain systems, for flat panels and assembled furniture.				
PRODUCT PREPARATION:	PL50 Polyurethane White Ma TX75 Hardener (non-yellowir TZ13 Thinner		<u>Parts by</u> 100 40 15-30	<u>weight</u>	<u>Parts by volume (ounces)</u> 128 64 30	
APPLICATION SYSTEMS:	Airless, air-assisted, conven	tional spra	ıy.			
QUANTITY:	120 140 per coat(gr sq mt) (4	120 140 per coat(gr sq mt) (4.8-5.6 wet mils)				
COATS:	One					
GENERAL PROPERTIES:	Viscosity*85 -Application Viscosity*spray10 -Solids by Weight, %, as supplied62 -			1.28 +/- 0.05 85 +/- 2 sec 10 +/- 2 sec 62 +/- 2 40-45 3		
	* ASTM D1200 (Ford) #4 at	20°C/68°F				
DRYING TIME: (at 20*C/68*F)	To handle: To stack:			1 hour Over nig	ht	
AVAILABLE SHEENS:	PL50 25-30 Sheen					
TYPICAL SYSTEMS:	Substrate:			MDF (clo	osed grain), Ash (open grain)	
	<u>Open Grain Finish</u>					
	PA20/TX50 PL50/TX75	1 coat 1 coat			q mt. (4.8 wet mils) q mt. (4.8 wet mils)	
	<u>Closed Grain Finish</u>					
	TF25/TV19 PI40/TVS5AA1/TV84 PL50/TX75	1 coat 2-3 coat 1 coat	S	150/200	mt (1.6 wet mils) gr/sq mt (6-8 wet mils) q mt. (4.8 wet mils)	
SHELF LIFE:	18 Months					
STORAGE:	Store in a tightly closed conta and foreign material.	ainer at roo	om temper	atures (18	-25 °C/64 -75 °F) and protect from moisture	
DATE OF ISSUANCE:	03 - 97 Revised 12-13, 5-14,	5-16, 9-16	6, 10-17, 4	-18, 9-18,	7-20, 12-20, 5-23	

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PRODUCT CODE:	PL 59					
DESCRIPTION:	Polyurethane Satin F	Polyurethane Satin Finish, Black				
USES:	Polyurethane matte topcoat or at room temperature.	Polyurethane matte topcoat suitable for open pore systems. Quick drying, can be cured with hot air ovens or at room temperature.				
PRODUCT PREPARATION:	PL59 Polyurethane matte fir TX50 Hardener TZ13 Thinner	iish	<u>Parts by weight</u> 100 50 25	<u>Parts by volume (ounces)</u> 128 64 32		
APPLICATION SYSTEM:	Spray					
QUANTITY(grsq mt):	120 - 130 (4.8-5.2 wet mils)					
COATS:	One					
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, %, as sup Solids by Weight, %, ready t Pot Life, hours at 20°C/68°F	to use	1.00 - 1.26 30 - 80 sec 15 +/- 2 sec 47 - 54 43 - 50 3			
	* ASTM D1200 (Ford) #4 at	: 20°C/68°F				
DRYING TIME: (at 20°C/68°F)	To handle: To stack:		1 hour Overnigh	ıt		
	Vertical oven cycle:	Flash off 45°C/113°F cooling	12 minut 45 minut 12 minut	es		
TYPICAL SYSTEMS:	Substrate:		Various v	/eneers		
	<u>Open pore</u> PA39/TX19 PL59/TX50	1 coat 1 coat		q.mt.(4.8 wet mils) q.mt. (4.8 wet mils)		
SHELF LIFE:	18 Months					
STORAGE:	Store in a tightly closed cont and foreign material.	tainer at room temper	atures (18 -25 °C/64	-75 °F) and protect from moisture		
DATE OF ISSUANCE:	03 - 97, Revised 12-13, 5-16	6, 10-17, 4-18, 8-18, 4	1-19, 7-20, 12-20			
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PRODUCT CODE:	PL 80					
DESCRIPTION:	Acrylic - urethane ma	Acrylic - urethane matte finish, pigmented white				
USES:		Acrylic-urethane white matte topcoats, suitable for open and closed grain systems, for flat panels and assembled furniture. Maximum yellowing resistance.				
PRODUCT PREPARATION:	PL80 Acrylic-urethane matte TX90 Hardener TZ13 Thinner* *Use TZ4223 in hot, humid w		<u>Parts by weight</u> 100 25 20	<u>Parts by volume (ounces)</u> 128 40 0-64		
APPLICATION SYSTEM:	Spray					
QUANTITY(grsq mt):	120 - 140 per coat (4.8-5.6 w	120 - 140 per coat (4.8-5.6 wet mils)				
COATS:	One	One				
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity** Solids by Weight, %, as supp Solids by Weight, %, ready to Pot Life, hours at 20°C/68°F * DIN 53211 Nr.6 at 20°C/68 ** DIN 53211 Nr.4 at 20°C/68	o use °F	1.16 +/- 0.05 30 +/- 2 sec 15 +/- 2 sec 45 +/- 2 49 +/- 2 3			
DRYING TIME: (at 20*C/68*F)	To handle: To stack:		1 hour 24 hours minimum	ı		
AVAILABLE SHEENS:	PL80 PL1W06 PL1W05		35 Sheen 25 Sheen 5 Sheen			
TYPICAL SYSTEMS:	Substrate		MDF(closed grain	), ash(open grain)		
	<u>Open Grain Finish</u> PA20/TX50 PL80/TX90	One coat One coat	120 gr/sq.mt.(4.8 120 gr/sq.mt.(4.8			
	<u>Closed grain finish</u> TF25/TV19 PI40/TVS5AA1/TV80 PL80/TX90	One coat Two/three coats One coat	40 gr/sq.mt. (1.6 v 150 - 200 gr/sq.mt 120 gr/sq.mt. (4.8	t. per coat (6-8 wet mils)		
SHELF LIFE:	18 Months					
STORAGE:	Store in a tightly closed conta and foreign material.	Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material.				
DATE OF ISSUANCE:	03 - 97 Revised 12-13, 2-16,	5-16, 12-16, 10-17,	5-20, 7-20, 12-20, 5	-23		

EVERY REASONABLE PRECAUTION IS TAKEN IN THE MANUFACTURE OF OUR PRODUCTS TO INSURE THAT THEY COMPLY WITH OUR STANDARDS. INFORMATION GIVEN IS CORRECT TO THE BEST OF OUR KNOWLEDGE. ANY SUGGESTIONS MADE BY US COVERING THE USE OF OUR PRODUCTS ARE BASED ON EXPERIENCE AND/OR TESTS BELIEVED TO BE RELIABLE. HOWEVER, BECAUSE THE USE OF ANY PRODUCT OF OUR MANUFACTURE IS COMPLETELY BEYOND OUR CONTROL. INCLUDING FOR EXAMPLE, THE METHOD AND CONDITIONS OF APPLICATION, NO GUARANTEE OR WARANTY, EX-PRESSED OR IMPLIED, IS MADE. MANUFACTURE'S MAXIMUM LIABILITY SHALL BE TO REPLACE SUCH QUANTITY OF PRODUCT DETERMINED BY OUR LABORATORY TO BE DEFECTIVE. USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR HIS INTENDED USE AND ASSUME ALL RISK AND LIABILITY IN CONNECTION THEREWITH.

PRODUCT CODE:	PL 800 Series						
DESCRIPTION:	Polyurethane White I	Polyurethane White Matte Finish					
USES:		Polyurethane white flat topcoats. suitable for open and closed grain systems, for flat panels and assem bled furniture. Packed in 20 KG pails for use as tintometric system base or a stand-alond product.					
PRODUCT PREPARATION	PL800 Series Polyurethane TX75 Hardener (non-yellowi TZ13 Thinner *TX72 for faster set time wit	ing)*	Parts by weight 100 40 15-30 lowing properties.	<u>Parts by volume (ounces)</u> 128 64 30			
APPLICATION SYSTEMS:	Airless, air-assisted, conver	ntional spray.					
QUANTITY:	120 140 per coat(gr sq mt) (	4.8-5.6 wet mils)					
COATS:	One						
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, %, as sup Solids by Weight, %, ready t Pot Life, hours at 20°C/68°F * ASTM D1200 (Ford) #4 at	to use	1.28 +/-0.05 62 +/-3 sec 10 +/-2 sec 65 +/-2 58 3				
DRYING TIME: (at 20*C/68*F)	To handle: To stack:	1 hour Over night					
AVAILABLE SHEENS:	PL800/50 PL800/20 PL800/10 PL800/05	50 sheen 20 sheen 10 Sheen 5 Sheen					
TYPICAL SYSTEMS:	Substrate:	MDF (closed grain)	), Ash (open grain)				
	Open Grain Finish PA20/TX50 PL800 Series/TX75 Closed Grain Finish TF25/TV19 PI40/TVS5AA1/TV84 PL800 Series/TX75	1 coat 1 coat 1 coat 2-3 coats 1 coat	120 gr/sq mt.(4.8 v 120 gr/sq mt.(4.8 v 40 gr/sq mt (1.6 w 150/200 gr/sq mt ( 120 gr/sq mt. (4.8	wet mils) et mils) (6-8 wet mils)			
SHELF LIFE:	18 Months						
STORAGE:	Store in a tightly closed contained and foreign material.	tainer at room temper	atures (18 -25 °C/64	4 -75 °F) and protect from moisture			
DATE OF ISSUANCE:	01-12, Revised 12-13, 3-15,	5-16, 9-16, 10-17, 7-	20. 12-20, 5-23				
		V 40945 LANCAST					

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PRODUCT CODE:	PM 19					
DESCRIPTION:	Polyurethane gloss bla	Polyurethane gloss black topcoat				
USES:	Polyurethane gloss topcoat, si	uitable for MDF pa	nels and as	sembled furniture.		
PRODUCT PREPARATION:	PM19 Polyurethane gloss finis TX276 Hardener TZ13 Thinner (spray)		<u>/ weight</u>	<u>Parts by volume (ounces)</u> 128 128 25-50		
APPLICATION SYSTEM:	Spray, curtain coater					
QUANTITY(grsq mt):	140 - 180 per coat (5.6-7.2 we	et mils)				
COATS:	One	One				
GENERAL PROPERTIES:	Viscosity*25Application Viscosity**(spray)10Solids by Weight, %, as supplied68			1.3 +/- 0.05 25 +/- 2 sec 10 +/- 2 sec 68 +/- 2 49 +/- 2 4		
DRYING TIME: (at 20*C/68*F)	To handle: To stack: Buffing			2 hours 24 hours minimum 48 hours minimum		
TYPICAL SYSTEMS:	Substrate TF25/TV19 PI29/TVS5AA1/TV84 PM19/TX276	1 coat 2 - 3 coats 1 coat		MDF 40 gr/sq.mt. (1.6 wet mils) 150/200 gr/sq.mt. (6-8 wet mils) 120 gr/sq.mt. (4.8 wet mils)		
SHELF LIFE:	18 Months					
STORAGE:	Store in a tightly closed contai and foreign material.	ner at room tempe	ratures (18	-25 °C/64 -75 °F) and protect from moisture		
DATE OF ISSUANCE:	03 - 97 Revised 12-13, 5-16, 1	10-17, 7 <b>-20, 12-2</b> 0,	5-22, 5-23			

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

PRODUCT CODE:	PM 80					
DESCRIPTION:	Acrylic-urethane glos	s finish, pigme	nted white			
USES:	Acrylic-urethane white gloss furniture. Maximum yellowing		r closed grain syste	ems, for flat panels and assembled		
PRODUCT PREPARATION:	PM80 Acrylic-urethane gloss finish whitePartys byTX90 Non-yellowing curing agent50TZ13 Thinner20 - 40			Parts by volume (ounces) 128 84 64		
APPLICATION SYSTEM:	Spray					
QUANTITY(grsq mt):	120 - 140 per coat (4.8-5.6 w	et mils)				
COATS:	One or two					
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity*(spray) Solids by Weight, %, as supplied Solids by Weight, %, ready to use Pot Life, hours at 20°C/68°F *ASTM D1200 Ford #4 Cup at 20°C/68°F			1.23 +/- 0.05 85 +/- 2 sec 15 +/- 2 sec 57 +/- 2 49 +/- 2 3		
DRYING TIME: (at 20*C/68*F)	To handle: Top coating with itself without To stack: To buff:	t sanding: 5 hours maximum	24 hou	r minimum rs minimum rs minimum		
TYPICAL SYSTEMS:	Substrate TF25/TV19 PI40/TVS5AA1/TV80 PM80/TX90	One coat Two/sealer One or two coats	150/20	q.mt.(1.6 wet mils) ) gr/sq.mt. per coat (6-8 wet mils) sq.mt. per coat (4.8 wet mils)		
SHELF LIFE:	18 Months					
STORAGE:	Store in a tightly closed conta and foreign material.	ainer at room tempera	atures (18 -25 °C/6	4 -75 °F) and protect from moisture		
DATE OF ISSUANCE:	03 - 97, Revised 12-13, 5-16,	, 10-17, 7-20, 12-20,	5-23			
IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035						

(800) 220-4035

#### PRODUCT CODE: PM800

DESCRIPTION:	Polyurethane White Gloss Finish						
USES:		Polyuethane white gloss topcoats, suitable for MDF panels and assembled furniture. Packaged in 20 KG pails for use as tintometric sytem base or a stand-alone product.					
PRODUCT PREPARATION:	PM800 Polyurethane White Gloss Finish TX75 Hardener TZ13 Thinner		<u>Parts by weight</u> 100 80 15-30	<b>Parts by volume (ounces)</b> 128 128 25-50			
APPLICATION SYSTEM:	Conventional or air assisted	airless spray.					
QUANTITY:	140-150 gr sq mt per coat (5	-6 wet mils)					
COATS:	One						
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Solids by Weight, %, as supp Solids by Weight, %, ready to Pot Life, hours at 20°C/68°F	blied o use	1.20 +/- 0.03 35 +/- 2 sec 71.4 +/- 2 40-45 +/-2 3-4				
	* ASTM D1200 (Ford) #6 at	* ASTM D1200 (Ford) #6 at 20°C/68°F					
DRYING TIME: (at 20*C/68*F)	Dust Free: To handle: To stack: Buffing:		30 mins 2 hours 24 hours minimum 48-72 hours minim	um			
TYPICAL SYSTEMS:	TF25/TV19 PI40/TV5AA1/TV84 PM800/TX75	1 coat 2-3 coats 1 -2 coats	40 gr/sq mt (1.6 w 150/200 gr/sq mt (6 120 gr/sq mt. (4.8 v	6-8 wet mils)			
	PA70/TX19 PM800/TX75	2 coats 1-2 coats	140 gr/sq mt (5.6 w 130 gr/ sq mt (4.8 v	,			
SHELF LIFE:	18 Months						
STORAGE:	Store in a tightly closed conta and foreign material.	Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material.					
DATE OF ISSUANCE:	07-20, Revised 9-20, 12-20,	5-23					

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

#### PRODUCT CODE: PU1252

DESCRIPTION:	Pearlescent Acrylic L	Irethane			
USES:	Pearlescent acrylic urethane	topcoats, suitable a	s finishes for	r various	furniture
PRODUCT PREPARATION:	PU1252 Pearlesecent Acry TX90 Hardener (light co TZ4223 Thinner	<u>Parts by w</u> 100 20 20-30	<u>veight</u>	<u>Parts by volume (ounces)</u> 128 26 20-30	
APPLICATION SYSTEM:	Spray				
QUANTITY(grsq mt):	110 - 120 per coat (4.4-4.8 v	vet mils)			
COATS:	One				
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Appl.Viscosity* Pot Life, hours at 20°C/68°F			1.05 +/- 98 +/- 2 12 +/- 2 4	sec
DRYING TIME:	* DIN 53211 Nr.4 at 20°C/68	°F			
(at 20°C/68°F)	Handling:			2 hours	
TYPICAL SYSTEMS:	Substrate			MDF, va	rious woods
	With polyurethane underce PA20/TX50 PL50/TX75 PU1252/TX90 TP11/TX90 With polyester undercoat PI40/TVS5AA1/TV80 PL50/TX75 PU1252/TX90 TP11/TX90	2 or 3 coats 1 coat 2 coats 2 or 3 coats 1 coat 2 coats 2 coats 2 coats		120 gr/s 120 gr/s 120 gr/s 200 gr/s 120 gr/s 120 gr/s	q.mt. per coat (4.8 wet mils) q.mt. (4.8 wet mils) q.mt. (4.8 wet mils) q.mt. per coat (4.8 wet mils) q.mt. per coat (8 wet mils) q.mt. (4.8 wet mils) q.mt. (4.8 wet mils) q.mt. per coat (4.8 wet mils)
SHELF LIFE:	18 Months				
STORAGE:	Store in a tightly closed cont and foreign material.	ainer at room tempe	ratures (18 -:	25 °C/64	-75 °F) and protect from moisture
DATE OF ISSUANCE:	03 - 07, Revised 12-13, 8-15	5, 5-16, 10-17, 12-20	, 5-23		

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

# **TECHNICAL DATA SHEET**

PRODUCT CODE:	PX 70			
DESCRIPTION:	Matting agent additive for acrylic urethanes			
USES:	Use as a matting agent additive for acrylics, TS 0 series. Not for use in the PM series polyurethanes.			
PRODUCT APPLICATION:	Add up to 10% maximum to adjust gloss of Acrylic Urethane products			
PRODUCT APPLICATION:	Typical of the product to be adjusted			
GENERAL PROPERTIES:	Specific Gravity, gr/cc Solids by Weight, %	1.10 +/- 0.05 51 +/- 2		
SHELF LIFE:	One year			
STORAGE:	Store in a tightly closed container at room temper and foreign material.	ratures (18 -25 $^{\circ}$ C/64 -75 $^{\circ}$ F) and protect from moisture		
DATE OF ISSUANCE:	03 - 97 Revised 4-02			

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

# **TECHNICAL DATA SHEET**

PRODUCT CODE:	PX 71			
DESCRIPTION:	Matting agent additive - General Purpose			
USES:	Used as a matting agent additive for polyurethanes, TO 0 series and PL 5 series Do not use in PM series polyurethanes			
PRODUCT PREPARATION:	Add up to 10% maximum to adjust gloss of polyurethane or nitrocellulose finishes			
PRODUCT APPLICATION:	Typical of the product to be adjusted			
GENERAL PROPERTIES:	Specific Gravity, gr/cc Solids by Weight, %	1.00 +/- 0.05 48 +/- 2		
SHELF LIFE:	One year			
STORAGE:	Store in a tightly closed container at room temperat and foreign material.	sures (18 -25 °C/64 -75 °F) and protect from moisture		
DATE OF ISSUANCE:	03 - 97 Revised 4-02			

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

#### PZ3.../COLOR SERIES **PRODUCT CODE:**

#### POLYURETHANE PIGMENTED TINT PASTE **DESCRIPTION:**

USES:

Tinting colors for Polyurethane Products. In general they may be used in all polyurethane systems at a level of 20-30% maximum combined color level with no effect on film properties, only gloss levels at the maximum level of tint paste. If used in Acrylic Urethane maximum level is 10%

AVAILABLE COLORS:	PZ330 PZ331 PZ332 PZ335 PZ336 PZ337 PZ338 PZ339 PZ340 PZ341 PZ344 PZ344 PZ344 PZ347 PZ355 PZ361 PZ364		White Vivid Yellow Gold Yellow Yellow Oxide Wisteria Red Red Oxide Bordeaux Blue Black Green Lemon Yellow Vivid Red Violet Red Concentrate Yellow Orange			
CHEMICAL/PHYSICAL PROPERTIES	CODE PZ330 PZ331 PZ332 PZ333 PZ335 PZ336 PZ337 PZ338 PZ339 PZ340 PZ341 PZ341 PZ341 PZ344 PZ347 PZ347 PZ355 PZ361 PZ364	Density (Kg/l 1.877 +/- 0.030 0.987 +/- 0.030 1.081 +/- 0.030 1.550 +/- 0.030 1.608 +/- 0.030 1.056 +/- 0.030 1.071 +/- 0.030 1.074 +/- 0.030 1.074 +/- 0.030 1.028 +/- 0.030 1.038 +/- 0.030 1.081 +/- 0.030 1.091 +/- 0.030 1.102 +/- 0.030	Density 15.7 +/- 8.2 +/- 9.0 +/- 12.9 +/- 8.3 +/- 13.4 +/- 8.8 +/- 8.9 +/- 8.7 +/- 9.0 +/- 13.3 +/- 13.3 +/- 8.6 +/- 8.7 +/- 9.0 +/- 9.1 +/- 9.2 +/-	0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	Solid content % 74.0 +/- 2 48.0 +/- 2 49.0 +/- 2 54.0 +/- 2 35.0 +/- 2 39.0 +/- 2 32.0 +/- 2 32.0 +/- 2 44.0 +/- 2 46.0 +/- 2 39.0 +/- 2 38.0 +/- 2 38.0 +/- 2 48.0 +/- 2 43.0 +/- 2	
USAGE INDICATIONS:		mix paste before use. be weighed with high	It is advisable to adc precision balances.	l pastes under m	echanical mixing.	
SHELF LIFE:	One Year					
STORAGE:	Store in a tightly foreign material.	Store in a tightly closed container at room temperature 18-25°C, 64-75°F and protect from moisture and foreign material.				
DATE OF ISSUANCE:	12-16					

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

#### PRODUCT CODE: TA 03

DESCRIPTION:	Polyurethane Clear Sealer					
USES:	Sealer for polyurethane clear systems, suitable for furniture.	Sealer for polyurethane clear systems, suitable for skirting boards, panels, frames, doors and assembled furniture.				
PRODUCT PREPARATION:	TA03 Polyurethane Clear Sealer TX50* Hardener TZ33 Thinner * TX75 for non-yellowing	<u>Parts by weight</u> 100 50 0 - 10 40	<u>Parts by volume (ounces)</u> 128 64 0-20 50			
APPLICATION SYSTEM:	Airless, Air-assisted, or Conventional Spray					
QUANTITY:	120 - 140 per coat (gr. sq. mt.) (4.8-5.6 wet mils)					
COATS:	One - for open grained systems					
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, %, as supplied Solids by Weight, %, ready to use Pot Life, hours at 20°C/68°F * ASTM D1200 (Ford) #4 at 20°C/68°F	0.97 +/- 0.05 85 +/- 2 sec 15 +/- 2 sec 40 +/- 2 31-35 4				
DRYING TIME: (at 20*C/68*F)	Handling: Sanding and topcoating:	30 - 40 minutes 8 hours minimum				
TYPICAL SYSTEMS:	Substrate:	Various woods				
	Open Grain FinishTA03/TX50*1 coatTO9 Series/TX241 coat* TX75 for non-yellowing	120 gr/sq. mt. (4.8 120 gr/sq. mt. (4.8				
SHELF LIFE:	18 Months					
STORAGE:	Store in a tightly closed container at room tempe and foreign material.	ratures (18 -25 °C/64	↓ -75 °F) and protect from moisture			
DATE OF ISSUANCE:	03 - 97 Revised 12-13, 5-16, 10-17, 10-20, 12-20	)				

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

PRODUCT CODE:	TA 0012				
DESCRIPTION:	Acrylic Urethane VOC/C Sealer				
USES:	Sealer for acrylic systems, suitable for light colored wood such as maple, ash, birch, etc. Low VOC formulation.				
PRODUCT PREPARATION:	TA0012 Acrylic Urethane VOC/C Sealer TX1939 Hardener TZ33 or TZ780 Thinner	<u>Parts by weight</u> 100 20 0-20	<u>Parts by volume (ounces)</u> 128 26 0-20		
APPLICATION SYSTEM:	Airless, Air-Assisted, Conventional Spray, or Curt	ain Coater			
QUANTITY:	120 - 140 per coat (gr sq mt) (4.8-5.6 wet mils)				
COATS:	One - for open grained systems Two to Four - for closed grain systems				
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, % as supplied Solids by weight, % ready to use Pot Life, hours at 20°C/68°F *ASTM D1200 (Ford) #4 at 20°C/68°F	0.95 +/- 0.05 38 +/- 2 sec 16 +/- 2 sec 35 +/- 2 30 +/- 2 4			
DRYING TIME: (at 20*C/68*F)	Handling: Sanding and topcoating:	2 hours minimum Over night			
(at 40 *C/104*F for 90 min)	Handling and assembling: Sanding and topcoating:	Immediate, after c 6 hours minimum	ooling		
TYPICAL SYSTEMS:	Substrate:	Ash, Maple, Birch			
	Open Grain Finish, Matte				
	TA0012/TX19391 coatTS000Series/TX19391 coat	120 gr/sq mt. (4.8 120 gr/sq mt. (4.8			
SHELF LIFE:	18 Months				
STORAGE:	Store in a tightly closed container at rom temperatures (18-25°C/64-75°F) and protect from moisture and f foreign material				
DATE OF ISSUANCE:	02-06, Revised 12-13, 8-15, 5-16, 12-16, 10-17,	7-20, 12-20			
IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035					

(800) 220-4035

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#### PRODUCT CODE: TA 44

DESCRIPTION:	Ultra Clear Polyurethane Sealer					
USES:	Excellent clarity, adhesion, ar pore whitening effects.	Excellent clarity, adhesion, and wetting properties. Recommended for dark stains and woods to reduce pore whitening effects.				
PRODUCT PREPARATION: TA44 Clear polyurethane sea			<u>Parts by</u> 100 50 5 - 20 40	<u>weight</u>	<u>Parts by volume (ounces)</u> 128 64 0-30 50	
APPLICATION SYSTEM:	Spray					
QUANTITY(grsq mt):	120 - 160 per coat (4.8-6.4 w	et mils)				
COATS:	Тwo					
GENERAL PROPERTIES:	Specific Gravity, gr/lt Viscosity* Application Viscosity for spray* Solids by Weight, %, as supplied Solids by Weight, %, ready to use Pot Life, hours at 20°C * (DIN 53211 mm. 4) at 20°C/68°F			0.98 +/- 02 66 +/- 2 sec 15 +/- 2 sec 50 +/- 2 44 +/- 2 4		
DRYING TIME: (at 20*C/68*F)	Handling: Sanding and topcoating			1 hour h	at room temperature or ot air oven at 40-50°C s minimum	
TYPICAL SYSTEMS:	Substrate: PF5 Stain TA44/TX11 TO9 series/TX24	1-2 coats 1 coat			woods q mt. (4.8 wet mils) q mt. (4.8 wet mils)	
SHELF LIFE:	18 Months					
STORAGE:	Store in a tightly closed conta and foreign material.	ainer at roon	n tempera	atures (18	-25 °C/64 -75 °F) and protect from moisture	
DATE OF ISSUANCE:	10-03 Revised 12-13, 5-16, 1	0-17, 7-20,	12-20			

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

#### PRODUCT CODE: TA 48

DESCRIPTION:	Clear polyurethane undercoat					
USES:	High coverage spray undercoat for cabinetry an	High coverage spray undercoat for cabinetry and furniture.				
PRODUCT PREPARATION:	TA48 Clear polyurethane undercoat TX11 Hardener TZ33 Thinner	<u>Parts by weight</u> 100 parts 50 10 - 20	<u>Parts by volume (ounces)</u> 128 64 0-30			
APPLICATION SYSTEM:	Spray					
QUANTITY(grsq mt):	120 - 140 per coat (4.8-5.6 wet mils)					
COATS:	Тwo					
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, %, as supplied Solids by Weight, %, ready to use Pot Life, hours at 20°C * ASTM D1200 (Ford) #4 at 20°C/68°F	0.99 +/- 0.05 47 +/- 2 sec 16 +/- 2 sec 48 +/- 2 43 +/- 2 4				
DRYING TIME: (at 20*C/68*F)	Handling: Sanding and topcoating	2 hours minimum 24 hours minimum				
TYPICAL SYSTEMS:	Substrate:	Various woods				
	TA48/TX111 coatTO9 series/TX241 coat	120 gr/sq mt. (4.8 120 gr/sq mt. (4.8				
SHELF LIFE:	18 Months					
STORAGE:	Store in a tightly closed container at room temperatures (18 -25 $^{\circ}$ C/64 -75 $^{\circ}$ F) and protect from moisture and foreign material.					
DATE OF ISSUANCE:	03 - 97 Revised 12-13, 5-16, 10-17, 7-20, 12-20	1				

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

PRODUCT CODE:	TB15 Series					
DESCRIPTION:	CLEAR COMBI COAT SELF-SEALER FINISH (SEALER AND TOPCOAT)					
USES:	GENERAL USE	FOR FURNITURE	E, STORE I	FIXTUF	RES	
PRODUCT PREPARATION:	TB15 Series100 parts by weightTZ33 or TZ35*10-30 parts by weightTo improve mechanical and chemical resistance properties it is necessary to add TX90 AcrylicHardener at 5-10%. The use of hardeners can effect the gloss. When using hardeners potlife is maximum8 hours (at 20°C/68*F). When using hardener, it is suitable to use standard polyurethane thinners and ahigher thinning ratio may be necessary.*To optimize dilution in summertime a small addition of retarder such as TZ14 or TZ08 may benecessary.					
APPLICATION SYSTEM:	Spray					
QUANTITY:	120 gr. sq.mt. per c	oat (4.8 wet mils)				
COATS:	Up to three, maxim	um				
GENERAL PROPERTIES:	Specific Gravity, gr, Viscosity* Application Viscosi Solids by Weight, % * DIN 53211 mm 6 **DIN53211 mm4 a	ty**(spray) %, as supplied at 20°C/68°F		.935 18 22 27	+/-0.02 +/-3 sec. +/-5 sec +/-2	
DRYING TIME:	Sanding: after 2-4 The 2nd coat may l		anding (wet	-on-wet)	after 2 hours - and b	efore 8 hours
GLOSS:	TB1440 glossTB151170 glossTB151250 glossTB151425 glossTB151610 glossPU23631-5 gloss					
TYPICAL SYSTEMS:	Substrate: Stain: Sealer: Antic effect Topcoat	PF 5/color series TB15 Series PD1/color series TB15 Series	Solid woo Stain solv Combi Co Solvent ba Combi Co	ent Base at - 1 to ase patir at - 1 co	e 2 coats na	series
			ually tilled v		centrated starts FF 5	.series
SHELF LIFE:	15 Months					
STORAGE:	Store in a tightly clo and foreign materia		om tempera	tures (18	3 -25°C/64 -75 °F) an	d protect from moisture
DATE OF ISSUANCE:	4-10, 6-17, 10-17, <sup>2</sup>	1-18, 4-18. 7-20				
	IC & S	, P.O. BOX 10845, I (800) 22		r, pa 1	7605	

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PRODUCT CODE:	TC 10				
DESCRIPTION:	Unsaturated paraffined	Unsaturated paraffined polyester for application to vertical surfaces			
USES:		Assembled furniture, gloss "wet look" appearance. Excellent thixotropic properties and leveling.			
PRODUCT PREPARATION:	TC10 Paraffined Unsatura TVS5AA1 Accelerator TV80 Peroxide Catalyst	ited Polyester	<u>Parts by weight</u> 100 2 2	<u>Parts by volume (ounces)</u> 128 3 2	
APPLICATION SYSTEM:	Two pack polyester spray equ	ipment			
QUANTITY(grsq mt):	200 per coat (8 wet mils)				
COATS:	Three				
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Solids by Weight, % Pot Life, minutes at 20°C/68°F Pot Life, catalyzed pot (double Pot Life, accelerated pot (double *Brookfield, spindle #5, cps at	e catalyst quantity) ble accelerator quar	ntity)	1.03 +/- 0.05 12000 +/- 2000 98 +/- 2 20 4 hours at 20°/68°F 24 hours at 20°C/68°F	
DRYING TIME: (at 20°C/68°F)	Between first and second coat Between second and third coat After third coat (gel formation) After third coat (sanding and b	at	15 - 20 10 - 15	minutes minutes minutes rs minimum	
TYPICAL SYSTEMS:	Substrate <u>Transparent system</u> TF25/TV19 TC10/TVS5A1/TV80 Sanding and buffing <u>Pigmented system</u> TF25/TV19 TC10/PZ6/TVS5AA1/TV80	1 coat 3 coats 1 coat 3 coats	40 gr/s 200 gr/ 40 gr/s	s woods q.mt. (1.6 wet mils) sq.mt. per coat (8 wet mils) q.mt.(1.6 wet mils) sq.mt. (8 wet mils)	
SHELF LIFE:	Sanding and buffing 12 months		-		
STORAGE:		iner at room temper	atures (18 -25 °C/6	4 -75 °F) and protect from moisture	
DATE OF ISSUANCE:	03 - 97 Revised 12-13, 5-16, 7	7-20, 12-20, 5-23			

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

PRODUCT CODE:	TC 11					
DESCRIPTION:	Unsaturated paraffined polyester	Unsaturated paraffined polyester for spray application				
USES:	Assembled furniture, gloss "wet look" appea	rance. Good thix	otropic properties and leveling.			
PRODUCT PREPARATION:	TC11Paraffined unsat. polyesterParts by weiTVS5AA1 Accelerator2TV80Peroxide catalyst2		eight Parts by volume (ounces) 128 3 2			
APPLICATION SYSTEM:	Two pack polyester spray equipment is reco	mmended				
QUANTITY(grsq mt):	200 per coat (8 wet mils)					
COATS:	2 or 3 minimum					
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Solids by Weight, % Pot Life, at 20°C/68°F Pot Life,catalyzed pot (double catalyst quan Pot Life, accelerated pot (double accelerato at 20°C/68°F *DIN 53211 Nr.8 at 20°C/68°F		1.03 +/- 0.05 25 +/- 2 sec 98 30 minutes 4 hours 24 hours			
DRYING TIME: (at 20°C/68°F)	Between second and third coat2After third coat (gel formation)2		25 minutes 25 minutes 25 minutes 24 hours minimum			
TYPICAL SYSTEMS:	Substrate	١	/arious woods			
	Transparent systemTF25/TV191 coatTC11/TVS5AA1/TV803 coatsSanding and buffing		0 gr/sq.mt.(1.6 wet mils) 200 gr/sq.mt. per coat 8 wet mils)			
	Pigmented systemTF25/TV191 coatTC11/PZ 6/TVS5AA1/TV803 coatsSanding and buffing		0 gr/sq.mt.(1.6 wet mls) 200 gr/sq.mt. per coat (8 wet mils)			
SHELF LIFE:	12 Months					
STORAGE:	Store in a tightly closed container at room te and foreign material.	mperatures (18 -2	5 °C/64 -75 °F) and protect from moistu	ire		
DATE OF ISSUANCE:	03 - 97 Revised 12-13, 5-16, 7-20, 12-20, 5-	23				

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

PRODUCT CODE: TF 1525

#### DESCRIPTION: Haps Compliant Polyurethane Barrier Coat

USES: Barrier coat with isolating properties for exotic woods, improves substrates wetting. It must be used with polyester topcoats to prevent curing inhibition caused by some dyes and impurities found in MDF board.

PRODUCT PREPARATION:	TF1525 Polyurethane Barrier Coat TV19 Accelerator TZ35NH Thinner	<u>Parts by weight</u> 100 5 - 10 25	<u>Parts by volume (ounces)</u> 128 8 32				
APPLICATION SYSTEM:	Conventional or air-assisted airless spray						
QUANTITY:	40 -60 gr sq mt per coat (1.6-2.4 wet mils)						
COATS:	One	One					
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* for spray Solids by Weight, %, as supplied Solids by Weight, %, ready to use Pot Life, hours at 20°C/68°F *ASTM D1200 (Ford) #4 at 20°C/68°F	0.96 +/- 0.05 10 +/- 2 sec 8 +/- 2 sec 22 +/- 2 17 +/- 2 4					
DRYING TIME: (at 20*C/68*F)	Topcoating without sanding: Sanding:		pcoated before 4 hours hours before sanding.				
SHELF LIFE:	18 Months						
STORAGE:	Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material.						
DATE OF ISSUANCE:	06-05, Revised 12-13, 5-16, 10-17, 7-20, 12-20						

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#### PRODUCT CODE: TF 25

DESCRIPTION:	Universal Polyurethane Barrier Coat			
USES:	Barrier coat with isolating properties for exotic woods, improves substrates wetting. It must be used with polyester topcoats to prevent curing inhibition caused by some dyes and impurities found in MDF board.			
PRODUCT PREPARATION:	TF25 Polyurethane Barrier Coat TV19 Accelerator TZ35 Thinner	<u>Parts by</u> 100 5 - 10 25	<u>weight</u>	<u>Parts by volume (ounces)</u> 128 8 32
APPLICATION SYSTEM:	Conventional or air-assisted airless spr	ay		
QUANTITY:	40 -60 gr sq mt per coat (1.6-2.4 wet m	ils)		
COATS:	One			
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* for spray Solids by Weight, %, as supplied Solids by Weight, %, ready to use Pot Life, hours at 20°C/68°F *ASTM D1200 (Ford) #4 at 20°C/68°F		0.96 +/- 0 10 +/- 2 s 8 +/- 2 se 22 +/- 2 17 +/- 2 4	sec
DRYING TIME: (at 20*C/68*F)	Topcoating without sanding: Sanding:		Must sar	n 4 hours nd if not topcoated before 4 hours
			lt is best	to wait 8 hours before sanding.
SHELF LIFE:	18 Months			
STORAGE:	Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material.			
DATE OF ISSUANCE:	03 - 97 Revised 12-13, 5-16, 7-20, 12-2	20		

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PRODUCT CODE:	TF 40				
DESCRIPTION:	Barrier Coat				
USES:	Non-yellowing, limited wetting of substrates, do the natural appearance of light natural woods.	es not change			
PRODUCT PREPARATION:	<ul> <li>TF40 Polyurethane Barrier Coat</li> <li>TX90 Curing agent (optional)</li> <li>TZ35 Thinner</li> <li>The addition of TX90 improves adhesion and</li> </ul>	<u>Parts by W</u> 100 10 - 20 10 - 30 wetting	<u>/t.</u> <u>Parts by Volume (ounces)</u> 128 13-26 13-38		
APPLICATION SYSTEM:	Spray, roller				
QUANTITY(grsq mt):	60 - 80 (spray) 10 - 20 (roller)				
COATS:	One to three, Minimum 30 minutes before reco	pating. Maximu	m 4 hours without sanding		
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, %, as supplied Solids by Weight, %, ready to use Pot Life, hours at 20°C/68°F (converted) *ASTM D1200 (Ford) #4 at 20°C/68°F		0.90 +/- 0.05 24 +/- 2 sec 15 +/- 2 sec (spray) 16 +/- 2 13 +/- 2 >12		
DRYING TIME: (at 20°C/68°F)	Topcoating		4 hours minimum before sealer Must sand if after 6 hours		
TYPICAL SYSTEMS:	Substrate	I	Light woods (maple, ash, birch etc.)		
	TF40/TX90       1 coat         TA0012/TX90       1 coat         TSx Series/TX90       1 coat		60 - 80 gr/sq.mt. 120 gr/sq.mt. 120 gr/sq.mt.		
SHELF LIFE:	18 Months				
STORAGE:	Store in a tightly closed container at room temp and foreign material.	peratures (18 -2	25 °C/64 -75 °F) and protect from moisture		
DATE OF ISSUANCE:	03 - 97 Revised 1-06, 2-18, 7-20, 12-20				

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

PRODUCT CODE:	TG 1323					
DESCRIPTION:	Unsaturated Polyeste	Unsaturated Polyester Clear Undercoat				
USES:		Sanding sealer for flat and shaped panels, doors, etc. Can be topcoated with matte and gloss polyurethane finishes. Excellent transparency and cold check resistance.				
PRODUCT PREPARATION:	TG1323 Clear Polyester Ur TVS5AA1* Accelerator TV84 Long Pot Life Cata TZ03 Thinner * TVS5AA1 use 1 part in hot v	alyst	e 2 parts	Parts by weight 100 2 2 5-10 in cold weather.	<u>Parts by volume (ounces)</u> 128 2 2 15-30	
APPLICATION SYSTEM:	Double component spray equ	ipment is re	ecommen	ded.		
QUANTITY:	150 - 200 per coat (gr sq mt)	(6-8 wet mi	ils)			
COATS:	Two to three	Two to three				
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, % Pot Life, minutes at 20°C/68°F *ASTM D1200 (Ford) #4 at 20°C/68°F			1.07+/-0.05 150 +/- 10 secs. 25-35 secs 89 +/-2 30-60		
DRYING TIME: (at 20*C/68*F)	Between coats, minutes: Between coats, hours: For sanding and topcoating, h	nours:		30 minimum 3 maximum 24 minimum		
TYPICAL SYSTEMS:	Substrate:			Various woods		
	<u>Gloss Finish</u> TF25/TV19 TG1323/TVS5AA1/TV84 TP60/TX75	1 coat 1 coat	2-3 coats	40 gr/sq mt.(1.6 w 150/200 150 gr/sq mt. (6 w	gr/sq mt.(per coat) (6-8 wet mils)	
	<u>Matte Finish</u> TF25/TV19 TG1323/TVS5AA1/TV84 TO9 series/TX24	1 coat 1 coat	2-3 coats	40 gr/sq mt.(1.6 wo 150/200 150 gr/sq mt. (6 wo	gr/sq mt.(per coat) (6-8 wet mils)	
SHELF LIFE:	12 Months					
STORAGE:	Store in a tightly closed conta and foreign material.	iiner at roor	n tempera	atures (18 -25 °C/64	-75 °F) and protect from moisture	
DATE OF ISSUANCE:	02 - 98 Revised 12-13, 5-16,	7-20, 12-20	), 5-23			

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#### PRODUCT CODE: **TO800 DESCRIPTION: NEUTRAL SATIN POLYURETHANE BASE** USES: Polyurethane neutral tint base used to made deep tone finish colors. See Page 72 for PZ3 colorants and acceptable tint loads. **PRODUCT PREPARATION:** Parts by weight Parts by volume (ounces) TO800 Neutral Satin Polyurethane Base 100 128 TX24\* Hardener 50 64 30 TZ13 30 Thinner \*TX50 for slightly faster cure and hardness. **APPLICATION SYSTEM:** Air Assisted, Conventional, or Electrostatic Spray QUANTITY: 130-160 per coat (gr. sq. mt.) (5.2-6.4 wet mils) COATS: One **GENERAL PROPERTIES:** Specific Gravity, gr/cc 1.00 +/-0.030 Viscosity\* 70 +/-5 sec Solids by Weight, %, as supplied 46.4 +/-2 Solids by Weight %, catalyzed 39 +/-2 Pot Life, hours at 20°C/68°F 3 hours \*EN ISO 2431 Iso Cup 6 @20°C/68°F DRYING TIME: Dust free: 10 mins Dry to touch: 30 mins To handle: 12 Hours AVAILABLE SHEENS: TO800 20 Sheen **TYPICAL SYSTEMS:** Substrate: Various woods Sealer: Tomted polyrethane sealers or primers 1-2 coats TO800 Neutral Satin Polyurethane Base tinted to color Finish: SHELF LIFE: 18 Months STORAGE: Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material. DATE OF ISSUANCE: 07-20, 12-20

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PRODUCT CODE:	TO 9/Series					
DESCRIPTION:	Polyurethan	Polyurethane Clear Finish				
USES:		Polyurethane clear topcoats, suitable for open and closed grain systems, for flat panels and assembled furniture. This finish exhibits good flow and leveling on verticle applications.				
PRODUCT PREPARATION:			<u>Parts by weight</u> 100 50 30	<u>Parts by volume (ounces)</u> 128 64 10-30		
	*TX50 for slightly fa	aster cure and hardness. TX75 for r	non-yellowing properties	, at 40 parts by weight, 50 by volume		
APPLICATION SYSTEM:	Air Assisted, Cor	nventional, or Electrostatic Spra	у			
QUANTITY:	100 - 120 per co	at (gr. sq. mt.) (4-4.8 wet mils)				
COATS:	One					
GENERAL PROPERTIES:	Specific Gravity, Viscosity* Solids by Weight Solids by Weight Pot Life, hours a	t, %, as supplied t %, catalyzed t 20°C/68°F	1.00 +/-0.05 24 +/-2 sec 46 +/-1 39 +/-1 2- 4 hours			
	*DIN 53211 Nr 6	@20°C/68°F	10.11			
DRYING TIME:	To handle:		18 Hours			
AVAILABLE SHEENS:	TO 00 TO 91 TO 92 TO 93 TO 94 TO 95 TO 96 TO 97	100 Deg. Gloss 65 Deg. Gloss 50 Deg. Gloss 30 Deg. Gloss 20 Deg. Gloss 15 Deg. Gloss 10 Deg. Gloss 5 Deg. Gloss				
TYPICAL SYSTEMS:	Substrate:	Various woods				
		Series Stain TX11/TZ33 Series	1- 2 coat			
	TZ33 Medium TZ13 Medium TZ14 Slow d	s for spray application: m diluent to be used during wint m/slow diluent to be used during tiluent to be used as retarder in tiluent to be used during hot, hu	g summer time addition to the other	diluents		
SHELF LIFE:	18 Months					
STORAGE:	Store in a tightly and foreign mate		eratures (18 -25 °C/64	4 -75 °F) and protect from moisture		
DATE OF ISSUANCE:	03 - 05 Revised	12-13, 5-16, 10-17, 7-20, 12-20				
	IC 8	S, P.O. BOX 10845, LANCAS (800) 220-4035	TER, PA 17605			
EVERY REASONABLE PRECAUTION IS TAK OUR KNOWLEDGE. ANY SUGGESTIONS M/	EN IN THE MANUFACTURE ADE BY US COVERING THE	OF OUR PRODUCTS TO INSURE THAT THEY O	COMPLY WITH OUR STANDARD PERIENCE AND/OR TESTS BELI	S. INFORMATION GIVEN IS CORRECT TO THE BEST OF IEVED TO BE RELIABLE. HOWEVER, BECAUSE THE USE		

PRODUCT CODE:	TO975/SERIES				
DESCRIPTION:	"DIAMANTE" HIGH S	CRATCH	I RESIS	TANT C	LEAR POLYURETHANE
USES:	FLATANDASSEMBLEDF or stains.	FLATANDASSEMBLED FURNITURE, TABLES, DESKS. Not recommended over light woods or stains.			
PRODUCT PREPARATION:	TO975/gloss TX70 TZ425 Thinner		<u>Parts by</u> 100 50 10 - 30	<u>v weight</u>	<u>Parts by volume (ounces)</u> 128 64 10-30
APPLICATION SYSTEM:	Spray, airless, and air mix	, for open	and clos	ed pore.	
QUANTITY:	120 - 140 per coat (gr. sq	.mt.) (4.8-	5.6 wet n	nils)	
COATS:	Only one coat is recommended				
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, %, as supp Solids by Weight, %, ready to Pot Life, hours at 20°C/68°F *ASTM D1200 (Ford) #4 at 2	o use		.954 40 16 35 31 >5 hours	+/-0.02 +/-2 sec. +/-2 sec. +/-2 +/-2
DRYING TIME:	At 20°C With tunnel at 50°C	18 hours 40-50'(1	0' cooling	)	
AVAILABLE SHEENS:	TO9750 TO9751 TO9752 TO9753 TO9754 TO9755 TO9757	90°+Deg 65 Deg. ( 50 Deg. ( 35 Deg. ( 25 Deg. ( 15 Deg. ( 5 Deg. (	Gloss Gloss Gloss Gloss Gloss		
TYPICAL SYSTEMS:	Substrate:       Various woods         Stain:       Solvent based stain         Sealer:       TA polyurethane clear sealer or TG, TC, polyester clear sealer         Finish:       TO 975/gloss clear matt finish         Additional coats of polyurethane topcoat are not recommended. If necessary spray the additional coat wet on wet in the time window of 90 minutes to 3 hours after the original coat. If recoating is necessary after hours, sand extremely well with 320 paper first.			n d. If necessary spray the additional coat wet	
SHELF LIFE:	18 Months				
STORAGE:	Store in a tightly closed conta and foreign material.	ainer at roo	m tempera	atures (18	-25 °C/64 -75 °F) and protect from moisture
DATE OF ISSUANCE:	03-97 Revised 12-13, 5-16,	10-17, 7-2	0, 12-20		

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#### PRODUCT CODE: TP 11

DESCRIPTION:	Acrylic Urethane Clear Gloss Finish			
USES:	Glossy finish for acrylic systems, suitable for light colored wood such as maple, ash, birch, etc. Contains a UV inhibitor to resist yellowing.			
PRODUCT PREPARATION:	TP11 Gloss Acrylic Urethane Clear TX90 Hardener TZ13 Thinner	<u>Parts by weight</u> 100 20 20-25	<u>Parts by volume (ounces)</u> 128 26 20-30	
APPLICATION SYSTEM:	Airless, Air-Assisted, or Conventional Spray,			
QUANTITY:	100 - 120 per coat (gr sq mt) (4-4.8 wet mils)			
COATS:	One			
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, %, as supplied Solids by Weight, %, ready to use Pot Life, hours at 20°C/68°F *ASTM D1200 (Ford) #4 at 20°C/68°F	0.94 +/-0.05 25 +/-2 sec 10 +/-2 sec 29 +/-2 25 +/-2 5-7		
DRYING TIME: (at 20*C/68*F)	To handle: To stack	1 hour Over night		
TYPICAL SYSTEMS:	Substrate:	Ash, Maple, Birch		
	Open Grain Finish, GlossTA0012/TX901 coatTP11/TX901 coat	120 gr/sq mt.(4.8 v 120 gr/sq mt. (4.8 v		
SHELF LIFE:	18 Months			
STORAGE:	Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material.			
DATE OF ISSUANCE:	10 - 97 Revised 12-13, 8-15, 1-16, 5-16, 10-17, 7	7-20, 12-20		

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

PRODUCT CODE:	TP 60				
DESCRIPTION:	Polyurethane gloss fi	nish, clear			
USES:	Glossy finish for furnitures, m	Glossy finish for furnitures, mouldings, and caskets. High coverage and "wet-look" appearance.			
PRODUCT PREPARATION:	TP60 Gloss Polyurethane Cle TX75 Curing Agent TZ13 Thinner (slow)* *Use TZ4223 in hot, humid w		<u>Parts by w</u> 100 100 40	<u>veight</u>	<u>Parts by volume (ounces)</u> 128 128 40
APPLICATION SYSTEM:	Spray				
QUANTITY(grsq mt):	140 - 160 (5.6-6.4 wet mils)				
COATS:	One or Two				
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, %, as supp Solids by Weight, %, ready to Pot Life, hours at 20°C/68°F *DIN 53211 mm 4 at 20°C/68	ouse		.99 +/-0. 50 +/- 2 13 +/- 2 50 +/- 2 35 +/- 2 2	sec
DRYING TIME: (at 20*C/68*F)	Handling: Buffing: Topcoating with itself without	sanding:		24 hours 30 minut	minimum s minimum ies minimum maximum
TYPICAL SYSTEMS:	Substrate:			Various	woods
	PF 5 series TF25/TV19 TG1323/TVS5AA1/TV80 TP60/TX75	1 coat 1 coat 2 - 3 coats 1 coat		40 gr/sq. 200 gr/se	.mt. (1.6 wet mils) .mt. (1.6 wet mils) q.mt. per coat (8 wet mils) q.mt. (4.8 wet mils)
SHELF LIFE:	18 Months				
STORAGE:	Store in a tightly closed container at room temperatures (18 -25 °C/64 -75 °F) and protect from moisture and foreign material.				
DATE OF ISSUANCE:	5 - 02 Revised 12-13, 5-16, 1	10-17, 7-20, 12-20, 5	-23		

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

PRODUCT CODE:	TP 800			
DESCRIPTION:	CLEAR WET-LOOK 2K POLYURETHANE CONVERTOR FOR TINTOMETRIC			
USES:	Glossy deep tone color base for cabined appearance. Intended to be tinted with I		askets. High coverage and "wet-look"	
PRODUCT PREPARATION:	TP800 Gloss Poly Tinting Convertor TX75 Hardener* TZ13 Thinner (slow)** *or TX72 faster cure, slight effect on she **Use TZ4223 in hot, humid weather	Parts by weigh 100 60 40-50 een 72	t Parts by volume (ounces) 128 80 51 96	
APPLICATION SYSTEM:	Spray			
QUANTITY(grsq mt):	140 - 160 grs/sqmt) (5.6-6.4 wet mils)			
COATS:	One or Two			
GENERAL PROPERTIES:	Specific Gravity, gr/cc Solid Content I component Solid Content II component Viscosity (Ford Cup 6) @20°C	1.00 +/02 53% +/-2% 34% +/-2% 34 sec +/-2 set	c	
READY TO USE FEATURES	: Solid content I + II components Pot Life: Viscosity (DIN 53211 mm4)@20°C	48% +/- 2% 3 - 4 h @20°C 13 sec +/-2 se		
DRYING TIME: (at 20*C/68*F)	Drying schedule at room temperature Buffing: Time between coats without sanding	24 hours minin 48-72 hours fo 3-4 hrs	num r polishing /buffing	
TYPICAL SYSTEMS:	Substrate:       MDF or wood         Sealer (example 1)       PI40/TV72/TV84       2-3 coats white polyester sealer.         -24 h drying-sanding-150 gr/sqmt per coat (6 wet mils)       Sealer (example 2)       PA20 or PA70 White or tinted (1 or 2 coats)         Sealer (example 3)       TA48 tinted to color (1 or 2 coats)         Finish:       TP800+PZ3xx series - one normal coat         TP800+PZ3xx series - one normal coat       TP800+PZ3xx series - one normal coat then after waiting 3- 4         hours without sanding: apply 2nd coat. If outside the 4 hour window, must wait overnight, sand with 320       then apply 2nd coat. The product after minimum 48 hrs can be polished by light sanding/buffing + wax/         flexible + polish or only with polish. For the best polishing and filling results the most suitable sealer,       especially if the substrate is MDF, is polyester, to be sanded with abrasive grain 280-320-400         If the first coat of TP800 is sanded, the second coat can be applied after 1 or more days. Dilution is very important to optimize the application result:       Curtain: dilute with TZ35 - during summertime and in case of high humidity it is recommended to use         TZ35/TZ14 in a ratio of 70/30. Maintain viscosity between 16" and 25" (F4). Use Cuno filter 75 micron f optimize bubbles release       Spray: dilute with TZ13. During summertime and in case of high temperature, it is recommended to use			
SHELF LIFE:	TZ4223; during wintertime use a mixture			
STORAGE:	Store in a tightly closed container at roo and foreign material.	m temperatures (18 -25 °0	C/64 -75 °F) and protect from moisture	
DATE OF ISSUANCE:	2-2016, Revised 5-16, 10-17, 7-20, 12-2	20		
IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035				

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PRODUCT CODE:	TR1688				
DESCRIPTION:	Unsaturated polyeste	er finish, clear			
USES:	Direct gloss polyester finish, Excellent "wet look" for horiz			frames, small furniture accessories. e film appearance.	
PRODUCT PREPARATION:	TR 1688 Direct gloss polyes TVS5AA1 Accelerator TV84 Catalyst TZ86 or	ter finish	Parts by weight 100 2 2 10	Parts by volume (ounces) 128 2 2 12-16	
APPLICATION SYSTEM:	Double component spray eq	Double component spray equipment is recomended.			
QUANTITY(grsq mt):	150 - 200 per coat (6-8 wet r	nils)			
COATS:	One				
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, % Pot Life, minutes at 2-°C/69° *ASTN D1200(Ford) #4 at 20		1.08 +/-0.05 24 +/-2 sec 13 +/-2 sec 86 +/-2 30-60		
DRYING TIME: (at 20*C/68*F)	Gel time: Full curing (handling)		25-30 minutes min 24 hours minimum		
TYPICAL SYSTEMS:	Substrate:		Various woods		
	TTF25/TV19 TG1323/TVS5AA1/TV84 TR1688/TVS5AA1/TV84 Buffing optional	1 coat 2-3 coats 1-2 coats	40 gr/sq mt (1.6 w 150/200 gr/sq mt p 150 gr/sq mt. (6 w	per coat (6-8 wet mils)	
SHELF LIFE:	12 Months				
STORAGE:	Store in a tightly closed container at room tremperatures (18-25°C/64-75°F) and protect from moisture and foreign material.				
DATE OF ISSUANCE:	12-00, Revised 12-13, 5-16,	7-20, 12-20, 5-23			

#### IC & S, P.O. BOX 10845, LANCASTER, PA 17605 (800) 220-4035

#### PRODUCT CODE: TR 9982

DESCRIPTION:	Unsaturated polyester gloss finish			
USES:	Direct gloss polyester finish, suitable for	edges, chairs, sma	ll furniture and coffins.	
PRODUCT PREPARATION:	TR9982 Polyester gloss finish TVS5AA1 Accelerator TV84 Catalyst TZ86 Thinner	Parts by weight 100 1 - 2 2 20 - 30	Parts by volume (ounces) 128 2 2 32	
APPLICATION SYSTEM:	Spray			
QUANTITY(grsq mt):	120 per coat (4.8 wet mils)			
COATS:	One			
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* Application Viscosity* Solids by Weight, %,as supplied Pot Life,minutes at 20°C/68°F *DIN 53211 #4 at 20°C/68°F		1.04 +/- 0.05 25 +/- 2 sec 15 +/- 2 sec 84 +/- 2 40 +/- 2	
DRYING TIME: (at 20*C/68*F)	Gel time: Full curing (handling)		30 - 50 minutes minimum 24 hours minimum	
TYPICAL SYSTEMS:	Substrate:		Various woods	
	TF25/TV19 TG1323/TVS5AA1/TV84 TR9982/TVS5AA1/TV84/TZ86	1 coat 2-3 coats 1-2 coats	40 gr/sq mt (1.6 wet mils) 150 gr/sq mt per coat (6 wet mils)	
NOTES:	For this direct gloss TR9982, the polyester sealers are most suitable. If using a polyurethane sealer use those that give higher quality and good polymerization. For a good result we advise to use guns that will atomize the paint (holes not too big and high air pressure). The direct polyester gloss TR9982 can also be polished with the following procedure: light sanding with abrasive grain 1000-1200 - buffing with polishing cream and cleaning with polis			
SHELF LIFE:	12 Months			
STORAGE:	Store in a tightly closed container at room temperatures (18 -25 $^{\circ}$ C/64 -75 $^{\circ}$ F) and protect from moisture and foreign material.			
DATE OF ISSUANCE:	03 - 97 Revised12-13, 5-16, 7-20, 12-2	0, 5-23		

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PRODUCT CODE:	TS000/SERIES	6			
DESCRIPTION:	Acrylic Uretha	Acrylic Urethane VOC/C Clear Finish			
USES:	Matte finish for acry UV inhibitor to resis	Matte finish for acrylic systems, suitable for light colored wood such as maple, ash, birch, etc. Contains a UV inhibitor to resist yellowing. Low VOC formulation.			
PRODUCT PREPARATION:	TS 000/ Acrylic L TX1939 Hardener TZ4223 or TZ13N⊦	Jrethane VOC/C Cle I or TZ780 Thinner	ar	<u>Parts by weight</u> 100 20 10-20	<u>Parts by volume (ounces)</u> 128 26 30
APPLICATION SYSTEM:	Airless, air-assisted	d, or conventional sp	ray.		
QUANTITY:	120 - 140 per coat	(gr sq mt) (4.8 - 5.6 v	wet mils)		
COATS:	One				
GENERAL PROPERTIES:	Specific Gravity, gr/ Viscosity* Application Viscosit Solids by Weight, 9 Solids by Weight, 9 Pot Life, hours at 2 *ASTM D1200 (Fo	ty*, spray %, as supplied %, ready to use		0.93 +/- 0.05 31 +/- 2 sec 15 +/- 2 sec 24 +/- 2 25 +/- 2 4	
DRYING TIME: (at 20*C/68*F)	To handle: To stack:			1 hour Over night	
(at 50*C/122*F for 1 hour)	Handling and asser	mbling:		Immediate, after o	cooling
AVAILABLE GLOSSES:	TS0001 TS0002 TS0003 TS0004 TS0005 TS1707	65 Degrees 50 Degrees 35 Degrees 25 Degrees 15 Degrees 5 Degrees			
TYPICAL SYSTEMS:	Substrate:			Ash ,Maple, Birch	
	Open Grain Finish TA0012/TX1939 TS000/Series/TX19		1 coat 1 coat	•	sq mt. (4.8 wet mils) sq mt. (4.8 wet mils)
SHELF LIFE:	18 Months				
STORAGE:	Store in a tightly clo and foreign materia		om temper	atures (18 -25 °C/64	4 -75 °F) and protect from moisture
DATE OF ISSUANCE:	02-06, Revised 12-	13, 8-15, 5-16, 10-1	7, 11-17, 7	-20, 12-20	

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#### PRODUCT CODE: TS18

DESCRIPTION:	Acrylic-Urethane Ultra-Matte Clear Self-Sealer					
USES:	Developed to otain furniture, etc.	Developed to otain ultra-matte aesthic look of natrual wood. Contains UV inhibitor. Is suitable for panels, furniture, etc.				
PRODUCT PREPARATION:	TS18 Acrylic Uretha TX90 or TX1939 Ha TZ4223 or TZ13NH	ardener		<u>Parts by weight</u> 100 25 30-50	<u>Parts by</u> 128 32 32	<u>volume (ounces)</u>
APPLICATION SYSTEM:	Airless, air-assisted	l, OR conventional s	pray.			
QUANTITY:	120-140 per coat (g	120-140 per coat (gr/sqmt) (4-6 wet mils)				
COATS:	Recommended to u	use as self-sealer. 1	st coat, sa	inding , 2nd coat.		
GENERAL PROPERTIES:	Specific Gravity, gr. Viscosity (EN ISO 2 Viscosity (DIN 532 Application viscosit *Viscosity at 20°C,	2431) ISO 6 cup 11 mm4) y (DIN 53211 mm4)	.910 +/ 54 +/-4 80 +/-5 15+/-2	030		
DRYING TIME: (at 20*C/68*F)		m drying e e betweeen layers veeen layers wityhou el drying (20-40-60°(			ng	18 h 10 min 30 min 18 h 12 h 4 h 24 h 24 h 3 h 2 h immediately
AVAILABLE GLOSSES:	4 Sheen (+/-2)					
TYPICAL SYSTEMS:	System #1 Substrate: Stain: Sealer: Finish: System#2	various with or without stair TS18 TS18	n 1 coat 1 coat			
Substrate:	various					
Stain: Sealer:	with or without stair TE-UV Sealer	ı				
Finish:	TS18	1 coat				
SHELF LIFE:	18 months from dat	te of manufacture				
STORAGE:	Store in a tightly clo and foreign materia		om temper	atures (18 -25 °C/64	I -75 °F) ar	nd protect from moisture
DATE OF ISSUANCE:	06-13, Revised 12-	13, 8-15, 5-16, 7-20,	, 12-20			
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PRODUCT CODE: TS168

DESCRIPTION:	Acrylic-Urethane Velvet Diamond Finish				
USES:	Developed to obtain ultra-matte aesthetic look of natural wood. Contains UV inhibitor. Is suitable for panels, furniture, shelving, velvet touch and high scratch resistance.				
PRODUCT PREPARATION:	TS168 Acrylic Urethane Clea TX168 Hardener TZ4223 or TZ13NH	r	<u>Parts by weight</u> 100 30 25	<u>Parts by volume (ounces)</u> 128 39 30	
APPLICATION SYSTEM:	Airless, airmix spray, convent	tional spray			
QUANTITY:	100 - 120 per coat (gr sq mt)	(4- 4.8 wet mils)			
COATS:	Recommended to use as fina	Recommended to use as final topcoat.			
GENERAL PROPERTIES:	Specific Gravity, gr/cc Viscosity* (Ford 6 Cup) Application Viscosity, ISO 4 c Solids Content by weight, top Solids Content, by weight, m Pot Life (Maximum)	ocoat	1.060 +/030 20 +/- 2 sec 50 +/- 4 secs 51.7 +/- 2% 54.7 +/- 2% 4 hours		
DRYING TIME: (at 20*C/68*F)	Room temperatture (18-22°C used): Dust free Touch Dry Hard Dry	≿/64-72°F) 65-7-% re	lative humidity (also 4 min 8 min 24 hrs	dependent upon type of thinner	
GLOSS LEVEL:	2 +/- 1				
TYPICAL SYSTEMS:	<u>System #1</u> Substrate: Stain: Sealer: Topcoat:	Polyster Sealer TO	urethane sealer, suc	h as TA44 or TA48, or Clear lic Sealer is NOT recommended hane	
	<u>System #2</u> Substrate: Undercoat: Color Coat: Topcoat	various woods PA20 White Polyur PL50 White Polyur TS168 Vevet Diam		ane	
SHELF LIFE:	18 Months				
STORAGE:	Store in a tightly closed conta and foreign material.	ainer at room temper	ratures (18 -25 °C/64	I -75 °F) and protect from moisture	
DATE OF ISSUANCE:	01-16, Revised 5-16, 10-16,	11-16, 10-17, 11-18,	7-20, 12-20, 4-22		

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PRODUCT CODE:	TSG5030				
DESCRIPTION:	CLEAR ACRYLIC WET-LOOK URETH	IANE			
USES:		Glossy finish for acrylic systems, suitable for light colored wood such as maple, ash, birch, etc. Contains a UV inhibitor to resist yellowing. Good filling properties. Can be buffed and polished.			
PRODUCT PREPARATION:					
	TSG5030 Clear Acrylic Wet-Look Urethane TX90 Acrylic Hardener TZ13 or TZ4223 Thinner	<u>Parts by weight</u> 100 80 30	<u>Parts by volume (ounces)</u> 128 102 34		
APPLICATION SYSTEM:	Airless, Air-Assisted, Conventional Spray, or Robot Spray				
QUANTITY:	120 - 150 per coat (gr sq mt) (4.8-6 wet mils)				
COATS:	One or two				
GENERAL PROPERTIES:	Specific Gravity, gr/cc: Viscosity (EN ISO 2431) ISO 4 cup: Application Viscosity (DIN 43211 mm 4) Solids by weight, % as supplied: Solids by Wegiht, % ready to use: Pot Life, hours at 20°C/68°F (maximum):	.97 +/030 84 +/- 5 14 +/- 1 42.5 +/- 2 36.9 +/-2 3 hrs			
DRYING TIME: (at 20*C/68*F)	Room temperature drying(18-22°C/64-72°F (65-7 Dust Free Dry to touch: Hard Dry: Maximum time between layers wtihout sanding: Buffing and polishing dependent upon drying con	40 min 120 min 24 hrs 3 hrs			
TYPICAL SYSTEMS:	Substrate: <u>Open Grain Finish, Gloss</u> TA0012/TX1939 1 coat TSG5030/TX90 1 coat	Ash, Maple, Birch 120 gr/sq mtr (4.8 120 gr/sq mtr (4.8			
SHELF LIFE:	18 months				
STORAGE:	Store in a tightly closed container at room temperatures (18-25°C/64-75°F) and protect from moisture and foreign material.				
DATE OF ISSUANCE:	01-16, Revised 4-16. 5-16, 7-20, 12-20				

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PRODUCT CODE:	TS53/Series					
DESCRIPTION:	Techno Finish - Acryli	Techno Finish - Acrylic Transparent Topcoat				
USES:		High scratch resistance, surface hardness, and mar resistance. High resistance to heat and humidity. Ideal for kitchen cabinets, furniture and doors. Contains UV inhibitor.				
PRODUCT PREPARATION:	TS53 Techno Acrylic Clear TX90 or TX1939 Hardener TZ4223 or TZ13NH or TZ780 Thinner		<u>Parts by weight</u> 100 25 30-40	<u>Parts by</u> 128 32 32	<u>volume (ounces)</u>	
APPLICATION SYSTEM:	Airless, air-assisted, or conve	Airless, air-assisted, or conventional spray.				
QUANTITY:	100 - 120 per coat (gr sq mt)	(4-4.8 wet mils)				
COATS:	Recommended to use as a o	ne coat finish over s	ealers.			
GENERAL PROPERTIES:	Specific Gravity, gr/cc Application Viscosity, CF 4 Solids by Weight, %, as supplied		0.919 +/- 0.02 30 +/- 2 sec 24 +/- 2			
	CFR 4 at 20°C/68°F					
DRYING TIME: (at 20*C/68*F)	To handle: Drying time in tunnel:		20 h by air 90' 40-50°C			
AVAILABLE GLOSSES:	TS53165 SheeTS53250 SheeTS53335 SheeTS53425 SheeTS53515 SheeTS53610 SheeTS5375 Sheen	n( +/-3) n (+/-3) n (+/-3) n (+/-3) n (+/-3)				
TYPICAL SYSTEMS:	System #1 Substrate: Stain: Sealer: Topcoat: System #2 Substrate: Stain: Sealer: Topcoat:	TA0012 Acrylic Se TS 53/Series - Tec various PF5 series, PG1 se	eries, or water base s aler hno Finish Topcoat eries, or water base s or TG1323 P/E Seale	stains	1-2 coats 1 coat 1-2 coats 1 coat	
SHELF LIFE:	18 Months					
STORAGE:	Store in a tightly closed conta and foreign material.	ainer at room temper	ratures (18 -25 °C/64	-75 °F) ar	nd protect from moisture	
DATE OF ISSUANCE:	08-2015, Revised 5-16, 10-1	7, 12-20				
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Notes	For tinting sealers & finishes polyurethane base		For tinting sealers & finishes polyester based	
Use	Primers, sealers & finishes		TC & TG	
Maximum % combined color level allowed		20 - 30 20 - 30	5 - 10	10-15 8-10 8-10 8-10 8-10 8-10 7-8 8-10 5-8 5-8 5-8 5-8 5-8
Color		White Vivid Yellow Gold Yellow Yellow oxide Wisteria Red Red Oxide Bordeaux Blue Black Green Lemon Yellow Vivid Red Violet Red Concentrate Yellow Orange		White Yellow Oxide Red Oxide Red Violet Blue Blue Black Orange Gold Yellow Lemon Yellow Lemon Yellow Lemon Vellow Cange Red Oxide Phthalo Blue Phthalo Blue Quinacridone Violet
Product description	Pigmented pastes for polyurethane systems		Pigmented paste for polyester systems	
Product code	PZ 3 series	PZ 330 PZ 331 PZ 331 PZ 333 PZ 335 PZ 335 PZ 336 PZ 339 PZ 341 PZ 341 PZ 347 PZ 347 PZ 347 PZ 347 PZ 347 PZ 361	PZ 6 & 850 series	PZ 60 PZ 63 PZ 65 PZ 65 PZ 65 PZ 67 PZ 64 PZ 64 PZ 64 PZ 64 PZ 64 PZ 64 850-0980 850-0980 850-1040 850-140 850-9440

# **PIGMENTED PASTES**

# ILVA

# TROUBLESHOOTING TIPS

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# COMMON PROBLEMS AND THEIR SOLUTIONS WHEN USING POLYURETHANE COATINGS

#### BLUSHING

Blushing generally may occur during hot, humid weather with polyurethanes. Should it appear under extreme conditions, it can be remedied by adding a small amount of TZ 418 to the coating to slow the dry time.

#### **BUBBLES AND BLISTERS**

This would normally occur during hot weather. They may be caused by a porous substrate that has not been sufficiently sealed with a proper washcoat or sealer. Other common causes are: material drying too fast, material too heavily applied, insufficient air atomization, or excessive air movement. To correct insufficient atomization, increase your air pressure. Too heavy a coat can be corrected by reducing viscosity with TZ 13 or TZ 14. Drying too fast can be corrected by adding a small amount of TZ 418 as a retarder.

#### FLOW AND LEVELING / FISHEYES FOR POLYURETHANE AND ACRYLIC

0.5-1% addition of PX 27 Leveling Aid/Fisheye remover will eliminate problems such as orange peel and craters (fisheyes). Orange peel can also be caused by the application pressure being too high. The other problems associated with flow and leveling can be corrected by the use of TZ 14 to reduce the viscosity and slow the drying time.

#### **POLYURETHANE THINNERS**

Many application problems and poor finish results are due to the use of the wrong polyurethane thinner. Use recommended thinners only, i.e., TZ 13, TZ 14, TZ 33, TZ 35. No-HAPS thinners are available for all systems.

Many of the thinners that are available in the market today are intended for machinery and equipment clean-up or automotive refinishing. They are usually very strong solvents and evaporation is far too fast to obtain the necessary flow and leveling required for fine polyurethane finishes. Strong solvents will often bleed stains, lift finishes, draw out subsurface contaminants and cause many unnecessary problems with marginal equipment or application technique.

# VARIATIONS OF SHEEN

Every batch of ILVA's polyurethane is checked to be sure gloss is within our specifications. Variations of sheen are possible when using different thinners (evaporatin rates), different hardeners (type or %), change of application equipment, or dramatifc changes in temperature. Additionally change of sheen would normally occur when the material is insufficiently agitated. Semi-gloss polyurethanes and those of lower sheens should be stirred, and then agitated a minimum of ten minutes. Most low sheen finishes require 12 - 24 hours air dry to develop their sheen even though the surface may feel dry.

#### POLYURETHANE COMMON PROBLEMS (continued)

#### SURFACE PREPARATIONS

Smooth finish on wood starts with a clean, smooth, sanded surface free of dirt, oil, grease or any foreign material that would not be compatible with a polyurethane finish. Pre-finish sanding is usually done with 100-150-180 grit cabinet paper. Always sand with the wood grain and remove sanding dust from the surface before finishing.

Contaminates in the wood pores or spray equipment, such as silicone or sizing oils, will occasionally cause uneven drying or craters (fisheyes) in stains or finish coats. Anti-cratering additives (Fish Eye Remover) is the usual method for correcting these problems. Use PX 27 up to 1% of total coating to remedy fisheyes.

#### **DRY TIMES**

Optimum ambient drying conditions are 68° F - 75° F. Product wil not cure properly below 55° F. Improper curing may result in loss of adhesion, flaking, or peeling.

#### DRY TIME AND USE OF STAINS

All oil base or synthetic stains should be allowed to dry at least 24 hours before applying a polyurethane product. Solvents such as mineral spirits and naphtha in oil stains are not compatible with polyurethanes, and must be completely dried out of the stain before a polyurethane is applied. Solvent type spray stains may be recoated sooner, however, testing at your location with your stain is recommended for proper recoat compatibility. For best results Acrylic-Urethane is recommended over white or pastel colored stains.

#### **CLEAN UP**

Cleaning of spray equipment with acetone must be done as soon as possible after application of coating. Use of TZ03 is the recommended thinner.

#### DISPOSAL

Unused polyurethane must be disposed of in the proper manner and in accordance with applicable local, state, and federal laws.

# COMMON PROBLEMS AND THEIR SOLUTIONS WHEN USING POLYESTER COATINGS

# SPECIAL HANDLING PRECAUTION

The accelerator (TVS5AA1) and the catalysts (TV-80 & TV-84) are not stable when mixed solely with one another. This will cause an explosive fire hazard. Never mix these products directly with one another. Carefully follow mixing procedures for each product. Stir well before each step.

# BLUSHING

Blushing is a very rare problem with polyester coatings and can only happen if excessive quantities of product are applied. Refer to the product data sheet for the recommended film thickness. Spray applications of multiple coats (wet-on-wet) of polyester will allow good film build with no sags, using the proper techniques. The use of the barrier coat (TF 25 is very important to ensure the desired finish results.

#### **BUBBLE AND BLISTER**

Usually related to hot weather and fast drying times. The nature of polyesters are not usually affected by the hot weather and are formulated to dry at specific rates. Correct measurements of the accelerator (TVS5AA1) must be maintained.

#### **CRATERING AND CRAWLING**

Generally caused by contamination of the surface by oil or silicone. If better cleaning of the surface does not cure the problem, an addition of PX 1369 at a .5% to 1.0% level will usually solve the problem in Direct Gloss Polyesters. Use PX9562 for fisheyes in TG1323 Polyester Sealer at .2 - .3% level.

# THINNERS

Many application problems and poor finish results are due to the wrong polyester thinner. Use only TZ 03 thinner for thinning polyester sealer and clean up. TZ 86 should be used for thinning polyester topcoat and my be used in hot weather.

Many of the thinners that are available in the market today are intended for machinery and equipment clean-up or automotive refinishing. They are usually very strong solvents and evaporation is far too fast to obtain the necessary flow and leveling required for fine polyester finishes. Strong solvents will often bleed stains, lift finishes, draw out subsurface contaminants and cause many unnecessary problems with marginal equipment or application technique.

# DRY TIMES

Optimum ambient drying conditions are 68°F - 75° F. Product will not cure properly below 60° F. Improper curing may result in loss of adhesion, flaking, or peeling.

#### SURFACE PREPARATIONS

Smooth finish on wood starts with a clean, smooth, sanded surface free of dirt, oil, grease or any foreign material that would not be compatible with a polyester finish. Pre-finish sanding is usually done with 100 - 150 grit cabinet paper. Always sand with the wood grain and remove sanding dust from the surface before finishing.

Contaminates in the wood pores or spray equipment, such as silicone or sizing oils, will occasionally cause uneven drying or craters (fisheyes) in stains or finish coats. Anti-cratering additives (Fish Eye Remover) is the usual method for correcting these problems. Use PX 1369 at .5 to 1.0% of total Direct Gloss Polyester Coating to remedy fisheyes. Use PX9562 at .2 - .3% in TG1323 Polyester Sealer.

#### DRY TIME AND USE OF STAINS

All oil base or synthetic stains should be allowed to dry at least 24 hours before applying the barrier coat (TF 25). Solvents such as mineral spirits and naphtha in oil stains are not compatible with polyesters, and must be completely dried out of the stain before a polyester is applied. Solvent type spray stains may be recoated sooner, however, testing at your location with your stain is recommended for proper recoat compatibility. Once again, it is crucial to use the barrier coat (TF 25), before applying the polyester coating. For best results Acrylic Urethane is recommended over white or pastel colored stains.

# **CLEAN UP**

Cleaning of spray equipment with acetone must be done as soon as possible after application of coating. Use of TZ 03 is the only recommended thinner.

#### DISPOSAL

Any unused catalyzed polyester must be disposed of in accordance with applicable local, state, and federal regulations. Unused catalyzed polyester may be poured into a paper cup, allowed to stand until the material becomes very thick or semi-gelled. Then palce the cup into a bucket of water and dispose of in accordance with applicable local, state, and federal laws.

# ILVA

# **BUFFING & POLISHING TIPS**

IC & S P.O. Box 10845, Lancaster, PA 17605 (800) 220-4035

# BUFFING AND POLISHING TIPS FOR ILVA HIGH PERFORMANCE POLYESTER AND POLYURETHANE FINISHES

To have an excellent buffed and polished finish, it is extremely important to select the correct type of coating, sanding paper, pastes-wax and polish. The best results will be achieved on substrates that have been coated and sanded following the finishing cycles set out in the ILVA handbook.

An additional important factor that will influence the final effect of polishing is the degree of hardness of the coating film. Uncured coatings will tend to lift or move on the wood during polishing. This lifting of the film surface is a result of heat generated by the friction from the buffing rolls or the rotating pads, and can produce a "waved" effect or a dullness in the film after polishing.

Dry times will vary depending on the ambient temperature at the time of spraying or coating. Drying times also deviate depending on seasonal temperatures (i.e., longer drying times during the winter months and shorter drying times during the summer months). The optimum amount of air dry time of the film prior to buffing is 48-72 hours. Curing times can also be considerably reduced in industrial cycles by using an oven or forced hot air.

IC&S customers have had excellent results buffing our ILVA productrs using the Menzerna line of compounds listed below.

Never use large or course grain sanding paper (i.e. 120-180 grit) on any sealer or topcoat. The higher the quality and grain of sanding paper used in the initial sealer sanding, the better the result will be after buffing and polishing. If course paper is inadvertently utilized on sealer coats, sanding on later coats of material with fine paper, will not eliminate the "scratch" or "swirl" marks made during improper initial sealer sanding. These marks will always show through topcoats and buffing and polishing will tend to accentuate them. ILVA sealer coats are specially formulated to powder and sand with 320 then 400 paper which helps to achieve beautiful high gloss finishes.

**"Manual polishing",** utilizing hand buffers or pads, is suitable for small jobs or pre-assembled items which cannot be polished by automatic production line machinery. In this instance, on polyester film, a good quality abrasive (Indasa, 3M, Norton, for example), followed by a Menzerna M-1000 Heavy Cut Compound, and M-3000 Final Finish, in that order, are generally sufficient to remove all signs of scratches left by the sanding paper on the finished surface.

Obtaining the finest buffed/polished finish with polyurethane and polyester high gloss pigmented topcoats, requires use of ultra fine sandpaper just before buffing (i.e. 1000 grit or higher and then 1200). Menzerna has availabe M-TF125 Finishing Glaze to enhance gloss and mask imperfections.

**Waxed polyester coated surfaces:** Sand with 320 grit paper to remove the wax. The final finish is achieved by using 400-500-600 grit paper with a straight line sander at a right angle to the previous step of sanding. Should an ultra fine finishing be required, more sandings using 800 grit paper stepped up to 1500 or so may be necessary. Menzerna has availabe M-1000 Heavy Cut Compound, M-3000 Final Finish and M-TF125 Finishing Glaze, used in order listed, to enhance gloss and mask imperfections. **Direct gloss polyesters** (without paraffin wax) should be sanded using a finer grain abrasive paper 1000-1200-1500 grit, at a right angle to the previous step, then buffed using M-1000 Heavy Cut Compound, M-3000 Final Finish, and M-TF125 Finishing Glaze, in noted order, to enhance gloss and mask imperfections.

**Polyurethane painted surfaces:** Sand using 1000-1200-1500 grit paper and always sand at a right angle to the previous step. Then the same buffing compounds and procedure should be used as noted above under Direct gloss polyester.

**Dark polyurethane finishes:** To avoid a "whitening effect" which is caused by the use of pastes and waxes that are too abrasive, it is necessary to take particular care when sanding and buffing. Menzerna recommends using M-1000 Heavy Cut Compound, M-3000 Final Finish and, as a final step, M-TF125 Finishing Glaze can be used to enhance gloss and mask imperfections.

**Never use silicon sanding paper to sand sealer.** The failure to observe this fundamental rule may result in "fisheyes", adhesion and flow out problems with all finishes. Silicon based pastes, sanding paper, and polishes are intended for use in the automotive

IC&S customers have had excellent results buffing and polishing our ILVA products using the MEN-ZERNA line of compounds listed below.

#### MENZERNA POLISHING COMPOUNDS

#### Solid Bar Buffing Compunds

M-W-18	Yellow medium polish compound for removing 800-1000 grit sanding marks
M-W-16	Tan fine burnishing wax compound for removing 1000 grit sanding marks
M-WG-15B	Similar to W16, black for dark colors
M-WATOL6	Tan very fine polishing compound for high gloss buffing

#### Liquid Compounds and Polishes

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M-1000	Heavy Cut Compound.	Removes	1000-1500	grit sanding marks

- M-3000 Final Finish. Elminates light scratches and swirl marks.
- M-TF125 Finishing Glaze. Enhances gloss and masks imperfections.

# ILVA HIGH PERFORMANCE WOOD FINISHES Proper Care

**ILVA/IC&S** has been creating and selling premium quality wood finishes for over 75 years. This fine cabinetry has been finished with one of our products that is the result of the latest technology and our approach to contemporary lifestyle solutions. Cared for properly, this finish will remain beautiful and functional for many years.

# Proper Care

**Remove Dust**. Dust is made up of small, airborne particles which can build up and may scratch or dull the surface if not removed correctly. Simply wipe the surface with a cloth dampened with a cleaning polish or mild detergent.

**Clean.** Oil from fingerprints, cooking fumes, smoking residue and other contaminants accumulate on any finished surface. None of these contaminates will harm our finish but should be periodically removed to restore the finish to its original luster. Just wipe the surface with a cloth dampened with a polish that doesn't contain wax. As an alter native you can use a cloth with a mild detergent solution. Ammonia or alcohol base cleaners are not recommended. Use of ammonia-based products and silicone oils may cause damage if used over a long period.

This finish is durable, but spills should be cleaned promptly. Also, excessive exposure to direct sunlight, high temperatures and high humidity can cause damage to the finish and wood itself.

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