

STANDARD VARNISHES
AND SYNTHETIC RESINS

CENTRAL REGION

R. J. Haviland
Paul Oertling

7/15/60

RJH &
PO

- ACTIVE VARNISHES -

7/15/60

VEHICLE #	TYPE	OILS	RESINS	SOLVENTS	OIL LENGTH	N.V. %	VISC.	COLOR GARDNER	ACID# (SOL)	WEIGHT GAL.	PTHALIC MODIFIER ANH. DRIERS, ETC. IN-POT
V-36	Resin C.C.	none	Damar	S-43	0	53/55	A-F	10		7.7	-
V-37	"	none	Modified Phenolic	S-23 S-138	0	60	B-D	13	9-10	8.7	-
V-38	"	none	Glycerol Ester	S-43	0	64/66	G-H	12	4-5	8	-
V-46	Resin (Gloss Oil)	none	Linseed-Rosin	S-43	0	61/63	S-T	13	57	8	VM-300
V-57A (VR-54004)	Oleo Resinous	O-3	VM-473	S-23	12 1/2 g.	39/41	A-1	15	-	7.9	-
V-119	"	O-3 O-63	Hardened VM-481	S-43	54	43/44	E-F	15	10	7.2	VM-320 VM-310
V-159-C	"	O-285 O-52	VM-236	S-43	50	64	E	13	8-9	7.47	CH-178
V-177	"	O-285	VM-236 VM-481	S-43	37	46/47	E	14	10-11	7.29	VM-308 CH-146
V-306C	"	O-3	VER-915 (VM-242) B94 Resin	S-43, S-138 S-23	10	50/51	E	11/12	6	7.4	D-33 & D-29
V-340	Oleo Resinous	O-132	VM-450	S-23, S-43	2	47	1/4	16/17	0.5	7.5	D-75 Formerly RVL-2357-C
V-357-H	"	O3 & O65	VM-535	S-43	18	50/51	F/G	10/11	5	7.45	
V-405	Touch-up Black	none	VM-106 & VM-481	S-43 S-342	0	42/43	29" F.C. 4	black	-	7.25	
V-411-A	Asphaltum	O-60	VM-106 VM-481	S-43	4 gal	40	36" F.C. 4	Black	-	7.25	VM-310
V-523	"	O-3	VM-167	S-43 & S-90	50"	54	A	12	6-9	7.4	VM-308

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VEHICLE #	TYPE	OILS	RESINS	SOLVENTS	OIL LENGTH	N.V. %	VISC	COLOR GARDNER	ACTIVE VARNISHES - page 2.		PTHALIC MODIFIER
									ACID # (SOL)	WEIGHT GAL.	APHN. DRIERS, ETC
V-557	Oleo Resinous	O-178 O-3 & O-52	none	S-43	all-Oil	63/64	F	9	1.2	7.3	IN-PUT
V-705	Oleo Resinous	O-3 & O-52	VM-236	S-43	25 gal	45/46	E	12/13	5	7.3	VM-300 VM-308 & CH-198
V-715	"	O-3 O-52	VM-481	S-43	52	40/41	R	11	7-8	7.2	VM-300 VM-325 & VM-173
V-740 (VR-58003)	"	O-3	VM-670	S-43 S-23	50	60	F	9	15	7.6	D-75
V-756	"	O-3 O-52	VM-344	S-43	60	60	E/F	11/12	11-12	7.5	D-75
V-806	Alkyd	O-183	Glycerol	S-23	34%	33%	D-E	5	12	7.69	45% -
V-813	Alkyd	O-183	Glycerol Phthalic	S-23 & S-138	35%	50	P	7	8	8.15	44%
V-827-B	"	O-265 O-182	Glycerol Phthalic	S-23	40%	50	J-R	6	5	8.17	39% CH-198
V-828	"	O-183, O-3 & O-60	Modified Glycerol Phthalic	S-23 & S-138	54%	50	I-K	6	8-9	7.88	36% VM-344
V-833-H	"	O-268-C	P.E./Glycerol Phthalic	S-138 S-342 & S-43	39%	50	R-U	10/11	8-10	8.0	30% VER-915
V-850-A	"	O-265	Glycerol Phthalic	S-43	47%	50	V-W	5/6	5.	7.6	42%
V-849	Alkyd	O-318	Glycerol Phthalic	S-23/s-342	34%	50	X	8	6	7.33	41% CH-181
V-855A	Alkyd	O-52	Glycerol Phthalic	none	73%	100	T-U	9/10	10	8.3	18% -
V-858	Alkyd	Sylfat 496	Glycerol- Pe.-Phthalic	S-43	40%	50	T-U	6	4	7.6	25% VM-481 CH-198

VEHICLE #	TYPE	OILS	RESINS	SOLVENTS	OIL LENGTHS	N.V. %	VISC	COLOR GARDNER	ACID # (SOL)	ACTIVE VARNISHES - PAGE 3		
										WEIGHT #	PTHALIC MODIFIER	
										GAL.	ANH.	DRIERS ETC
											IN-PUT	
V-860	Alkyd	O-265	Glycerol Phthalic	S-43, S-23 & S-138	44%	48	W-X	5	5	8.3	35%	
V-869	"	O-265	P.E. Phthalic	S-43	60%	60	U-V	8/9	4	7.85	26%	
V-876	Alkyd	O-1	P.E. Glycerol Phthalic	S-23 & S-43	52%	50	X-Y	8	6	7.6	31%	
V-891	Alkyd	O-265	Glycerol Iso-Phthalic	S-23, S-43	55%	50	X	5	3	7.6	31% *	-
V-900	Vinyl Toluene	O-265 & O-268	P.E. Phthalic Vinyl Toluene	S-342	35%	50	W-X	7	8	7.34	13.5%	CH-288

ISO-PTHALIC
IN-PUT

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- ACTIVE VARNISHES -

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VEHICLE # TYPE	OILS	RESINS	SOLVENTS	OIL LENGTH %	N.V. %	VISC.	COLOR GARDNER	ACID # (SOL)	WEIGHT GAL.	PHTHALIC MODIFIER ANH. DRIERS, ETC. IN-PUT 40%
GRV-1521 Alkyd	0-183	Glycerol Phthalic	S-106, S-138 S-148, S-23	42%	60	Z 3-4	10	15-17	8.3	
GRV-2041C	0-182	Glycerol Phthalic	S-23	28%	40	M-O	5	36	8.01	47%
GRV-2045B "	0-323 CH-5	Glycerol Phthalic	S-138 S-23	12.7%	45	Z 4-5	3	10	8.28	46% B Vehicle only
GRV-2071 O.D. Alkyd	0-52 0-268	Modified Glycerol Phthalic	S-23	32%	50	Z 1-2	8/9	14	7.9	40% VM-481 CH-198
GRV-2141 Alkyd	0-52	Glycerol Phthalic	S-6, S-23 S-138	38%	50	Y-2	8/9	15	8.17	41%
GRV-2142 "	0-265	P.E./Glycerol Phthalic	S-43, S-342	47%	50	Z 2-3	8/9	7.6	33%	Cure 35"-40"
GRV-2180A Silicone Hi-Heat Alkyd	0-323	Si.-Modified Glycerol Phthalic	S-23	20%	50	Z 2	5	-	8.4	35% VM-648
GRV-2185 Alkyd	0-182	P.E./Phthalic	S-23, S-1 S-138	45%	50	Y-Z	6	27	8.01	34%
GRV-3003 Vinyl Toluene Alkyd	0-265 0-268	P.E./Phthalic	S-342, S-43	35%	50	T-U	6	6-7	7.34	13.5% CH-288
GRV-3015 Alkyd (29% Abietic Acid)	0-319	Modified Glycerol Phthalic	S-106	33%	50	V-W	7	23	8.10	36% Tall-Oil Resin CH-305
GRV-3042 Vinyl Toluene Alkyd	0-265 0-268	P.E./Glycerol Phthalic	S-342	35%	50	M-N	5/6	7	7.35	13.5% CH-288

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VEHICLE #	TYPE	OILS	RESINS	SOLVENTS	OIL LENGTH	N.V. %	VISC.	COLOR GARDNER	ACID # (SOL)	WEIGHT GAL.	PHTHALIC MODIFIER ANH. DRIERS, ETC.
GRV-3058	Modified Alkyd	O-265 O-52 (1% O-27)	Modified P.E. Glycerol Phthalic	S-43	50%	50	Z 2-4	10/11	7-9	7.5	28% VM-345
GRV-3077	Alkyd	O-182	P.E./Glycerol	S-43	48%	70	Z 3	6/7	7	8.3	32%
GRV-3101	Vinyl Toluene Alkyd	O-265 O-268	P.E./Glycerol Phthalic	S-342	35%	60	Y	6/7	7-8	7.6	13.5% CH-288
GRV-3121	Alkyd	O-326	Glycerol Phthalic	S-23	30%	50	Z 2-4	7	4-6	8.4	48%
GRV-3139	Alkyd	O-265 O-268	Glycerol Phthalic	S-23	48%	70	Z 1	5/6	10-11	8.6	35%
GRV-3147	Alkyd	O-265	P.E./Phthalic	S-23	60%	70%	U	6/7	5	8.3	26% Spl V-869
GRV-3171	Styrenated Alkyd	O-52 O-268	Modified P.E./Glycerol Phthalic	S-23	32%	50%	R-S	9	6-11	7.94	21.5% CH-308
GRV-3198	Alkyd	O-52	P.E./Glycerol	S-43	60%	70%		10	5	7.8	26.5%
GRV-3203	Vinyl Toluene Alkyd	O-265 O-268	P.E./Phthalic	S-342 S-57	34%	50	W-X	4	5-6	7.35	13% CH-288
GRV-3205	Modified Styrenated Alkyd	O-265 O-268	Modified P.E. Gl. Phthalic	S-23 S-106	36%	50	W	4	14	8.04	17.5% CH-308 Methyl-Methacrylate
GRV-3244	Alkyd	O-268	Glycerol	S-23	38%	50	X-Y	6	4-10	8.35	38%
GRV-3246	Alkyd	O-326	Glycerol Phthalic	S-23	40%	50	P-Q	4/5	3-4	8.1	35.5%

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VEHICLE #	TYPE	OILS	RESINS	SOLVENTS	OIL LENGTH	N.V. %	VISC.	ACTIVE VARNISHES 7/15/60 p.6			
								COLOR	ACID #	WEIGHT	PHENALIC MODIFIER
								GARDNER	(SOL)	GAL.	ANIL. DRIERS, ETC.
GRV-3262	Modified Alkyd	O-308 O-182	P.E. Phthalic	S-240 S-23	35%	50	Z 1-2	9	20	8.01	26.5% Tall Oil Abietic Acid Cure 35"-40"
GRV-3265	Modified Alkyd	O-326	P.E./Glycerol Phthalic	S-23 S-1	25%	50	S-U	5/6	16	8.4	45% GH-204 Cure 35"-40"
GRV-3284	Alkyd	Sylfat 496	P.E./Phthalic	S-138	50%	50	R	4-5	5-6	8.01	26.5%

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VEHICLE #	TYPE	OILS	RESINS	SOLVENTS	OIL LENGTH	N.V. %	VISC.	COLOR GARDNER	ACID # (SOL)	WEIGHT GAL.	PHthalic MODIFIER ANH. DRIERS, ETC
VR-41193	SPR Pitch Cut	none	VM-139	S-342 S-43	none	50	19" FC 4	B1	-	7.7	- D-29
VR-45067	Rust Inhibitive Oil	O-3 O-178 O-199	none	S-43 S-48 S-138	100%	50	A	13	3-4	7.28	D-68
VR-46057 (*VR-46105)	R & P Varnish	O-3 O-285	VM-345	S-43, S-57 S-138, S-342	8 gal	44	E-F	13	10	7.3	
VR-48100	Parlon Sol.	none	Parlon 5 CPS	S-6	none	30	A- $\frac{1}{2}$	5/6	-	7.6	
VR-49127	Base for Floor Finishes	O-3, Floor Finishes	VM-477	S-43 S-138	30 gal	50	G	8/9	5-6	7.3	
VR-51107	Talioil Ester	O-308 O-316	Abietic Acid (O308)	S-43	50%	46	T-U	12	9-10	7.32	CH-210 CH-198
VR-52008	Epon Ester Varnish	O-183	VM-584 VM-481	S-128 S-43	45%	42	F-G	12	4	7.38	
VR-53007A	Spl Epon Sealer	O-182	VM-584 VM-294 VM-654 VM-288	S-106 S-55	30%	55	O	10	3	8.2	
VR-53092	Vinsol Varnish	O-3		S-43 S-342, S-6	25 gal	50	B.T.	18+	15	7.5	VM-308
VR-54018	Traffic Zone Vehicle	O-30286	VM-242	S-43 S-342 S-57, S-6	25 gal	50	D-E	11/12	6	7.33	VM-430 VM-432
VR-54056C	Clear Pipe Coating	O-308 O32, O285 (VM-685 VM-696)	Abietic Acid in O-308	S-342 S-43	28 gal	50	C-D	18+	5-6	7.25	VM-520, VM-320 VM-432 VM-433, VM-310
*VR-46105	Moisture Fungus Res. Varnish	O-3	VM-254	S-23	13 gal	42	A/B	8/9	8-10	7.8	

<u>VEHICLE #</u>	<u>TYPE</u>	<u>OILS</u>	<u>RESINS</u>	<u>SOLVENTS</u>	<u>OIL LENGTH</u>	<u>N.V. %</u>	<u>VISC.</u>	<u>COLOR GARDNER</u>	<u>ACID # (SOL)</u>	<u>WEIGHT GAL.</u>	<u>PHTHALIC MODIFIER ANH. DRIERS, ETC</u>
VR-55025C	Spar Varnish	O-3 VR-49085	VM-338	S-43 S-138	45 gal	58	F-G	14	17	7.54	VM-530 VM-432 CH-243
VR-55078A	Epon Ester Partial	O3 O183	VM-584	S-56 S-23	30%	50	X-Y	8/9	-	-	
VR-55086	C.C. Epon	none	VM-587	S-6, S-23, S-64, S-50	none	40	Q	-	-	8.4	Vehicle for GL-66203
VR-55098D	Rust Inhibitive Oil ICP. Fishoil	O-308 O32 O183	Abietic Acid in 308 VM-696	S-43, S-148 S-138	65 gal	50	A	18+	11	7.37	CH-210, VM-310, VM-320, VM-520, VM-432, VM-433
VR-57002A	Enamel Vehicle (VR-49085)	O-3	VM-338	S-43 S-138	27 gal	62	K	15	23	7.6	
VR-57014	Rock Spar Varnish	O3, O-9, O-285	VR-915 VM-535	S-43	33 gal	42	E-F	13	6-7	7.36	
VR-58052	Enamel Vehicle (VR-49085)	O-3	VM-338 VM-331	S-138 S-43	27	64	K	13	23	7.51	

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VEHICLE #	TYPE	OILS	RESINS	SOLVENTS	OIL LENGTHS %	N.V.	VISC.		COLOR GARDNER	ACID # (SOL)	WEIGHT GAL.	PTHALIC MODIFIER	
												ANH.	DRIERS, ETC
IN-FUT													
NRV-2937	N. Dr. Alkyd	0323	Glycerol Phthalic	S-23	33%	60	Z	4-6	0-3	4-6	8.6	43%	Match for Duraplex ND-77-B
NRV-2344	Nubelite Veh./Alkyd	0-318	Glycerol Phthalic	S-23	33%	50	Y-Z ₁	6		4-10	8.35	42%	Cure 30-50"
2KB-596	Tinting Base Vehicle	0268 0323	Glycerol Phthalic	S-23	45%	60	C-D		9/10 (L)5		8.2	30%	Cure 2'45" r 3'
2KB-1290	Semi Gloss Varnish - Y-47			S-43, S-64	-	38.5	45-55" F.C.4.	11/12	-		7.43		Sheen 35-40/90
RCR-6023A	Alkyd	Sylfat 496	Glycerol	S-240	46%	30	Z ₂ -Z ₄	14/15		20/25	7.3	* 37.5%	Iso-Phthalic
RCR-6033	V T Alkyd	0265/0268	Modified Glycerol Phthalic	Bronoco #360	27.5%	50	Z ₁ -Z ₂	12		5	7.5		Vinyl-Toluene
RCR-4037	Coating Resin					54	18-22" FC #4. on N.V.M.	C-4	-	-	8.68		

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VEHICLE #	TYPE	OILS	RESINS	SOLVENTS	OIL LENGTHS %	N.V.	VI SC.	COLOR GARDNER	ACID # (SOL)	WEIGHT GAL.	PTHALIC MODIFIER ANH DRIERS, ETC IN-PUT
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- BUY OUTS -

2KB-582A	Modified Alkyd	0343 O-3	Modified P.E./Phthalic	S-23	34%	50	V-X	10	3-4	8.28	39% Match for Aroplaz X-633,X-50
2KB-622	Alkyd	0265	P.E./Glycerol Phthalic (CH-181)	S-23	45%	60	Z ₁ -Z ₃	11/12	8-10	8.6	40% Non-drying Vinyl Compatible
2KB-500	Epon Ester Nupon	0270	VM-584	S-23	20%	50	V-W	8/9	3-5	7.9	-

- LATICES & P.V.A. -

VM-674 (XM-52044)	Oil Emulsion Vehicle					48	-	-	-	8.3	-
VM-812	P.V.A. Emulsion Vehicle Externally Plastocized					52.5	1000-1400 CPS	Milky White	fr H 4.5-5.5	9.16	-
VM-835	Acrylic Copolymer Latex					46.5	Brookfield Milky White Liquid	fr H	8.47		Visc. Brookfield 3/20 RPM 100-400 CPS
XM-58104	P.V.A. Copolymer					50	-	-	-	8.9	PH 4.8
ROR-0301	Industrial Latex					45	300	-	-	8.5	PH 3.0

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VEHICLE #	TYPE	OILS	RESINS	SOLVENTS	OIL LENGTHS	N.V. %	VISC.	COLOR GARDNER	ACID # (SOL)	WEIGHT GAL.	PHTHALIC MODIFIER ANH. DRIERS, ETC.
- UREAS & MELAMINES -											
VM-727	Urea Formaldehyde, slow cure type					60	V-X	WW	2	8.45	- Xylol Tolerance 3000%
VM-732A	Urea Formaldehyde fast cure type					57	V	WW	1-2	8.45	-
GRV-3160	Benzoguanamine - Formaldehyde - Resin S-23/ S-1					60	S-U	WW	0.4	8.62	-
RCR-3003	Butylated - Melamine - Formaldehyde Resin S-23					55	T-W	WW	-1	8.6	-
- GLIDPOLS -											
LRP-2211	Light stable Polyester					71	2450	1	30/34	9.5	-
LRP-3263	GLIDPOL Isophthalic Molding Resin					61	400 750 CPB	-	12/15	9.1	-
E9RP-2603	GLIDPOL 2202 Polyester Liquid					70	C.D.	1	29/31	9.3	-
E9RP-2701	GLIDPOL 1012					70	T-V	1	27/30	9.5	-
E9RP-2764	GLIDPOL 1001-A, Liquid					70	U-V	1	34/38	9.4	-
E9RP-3078	GLIDPOL 3078 - Match for Bakelite PIL-5142					68	T-U	-	17/19	9.36	-
E9RP-3079	GLIDPOL 3079 - Match for Bakelite PIL-5147					68	P-Q	-	18/20	9.3	-
E9RP-3105	#3105 Thixotropic GLIDPOL Resin Summer Version of E9RP-3099					61	450 750 CPB	-	23/27	9.1	-
RCR-4032A	Ready to Spray Polywood					49	29" FC #4	Pink	-	8.53	- RCR-4020A Blend: RCR-6027
RCR-4041	H I M W Isophthalic					61	2000 2400 CPB	12	-	9.15	- For use on Molding Resin
RCR-4042	H I M W Isophthalic					61	2400 2600 CPB	12/16	-	9.20	- Molding Resin
RCR-4052	Polyester Coating Resin Liquid, GLID Tile System					69	P-R	5	-	9.14	- GLD38210

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VEHICLE #	TYPE	OILS	RESINS	SOLVENTS	OIL LENGTHS	N.V. %	VISC.	COLOR GARDNER	ACID # (SOL)	WEIGHT GAL.	PHENALIC MODIFIER ANH DRIERS, ETC IN-PUT
- OILS -											
O-9	Aged Raw Linseed Oil slightly oxidized heat break free oil			Polymerizes rapidly		100	J-N	11	3/6	8.0	-
O-63	Heavy bleached Linseed Oil Alkali refined, heat bodied					100	Y-Z	5/6	8/10	8.0	-
O-65	Light bodied refined Linseed Oil					100	D	5/6	2	7.8	-
O-226	Maleic treated Vegetable Oils					100	W-Y	16/18	16/17	8.0	CH-198
O-286	Heat bodied Alkali refined Linseed Oil					100	Z ₂ -Z ₄	8	7/10	8.04	
O-398	Treated Soya Bean Oil					100	Z ₁ -Z ₂	8	6.5	8.09	-
XM-59899	Water Soluble Linseed Oil & Driers					40	-	-	-	8.4	P.H. 8.5
XM-58724A	Water Soluble Linseed Oil					40	-	-	-	8.4	P.H. 8.5
RCR-1026	Low Thermal Maleinized Linseed Oil					100	solid	-	80/95	8.6	-

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VEHICLE #	TYPE	OILS	RESINS	SOLVENTS	OIL LENGTHS	N.V. %	VISC.	COLOR GARDNER	ACID # (SOL)	WEIGHT GAL.	PHTHALIC MODIFIER ANH DRIERS, ETC
- EMULSION RESINS -											
GRV-3170	Alkyd	0308/03	P.E. Glycero Phthalic	Trace S-23	-	98	Solid	-	-	8.6	-
GRV-3092	Emulsion Resin	0216	-	Trace S-23	-	97.5	Solid	-	-	9.2	-
GRV-3140	Modified-Linseed Oil Polyurethane					100	Z ₃ -Z ₄	-	-	8.25	-

Cleveland

May 23, 1946

CHEMICAL AND PHYSICAL CONSTANTS
OF STANDARD VARNISHES

At the last Superintendent's Meeting and Technical Meeting in December, a limited number of standard varnishes were picked out and it was agreed these varnishes were to be considered as standard at all plants and development work in so far as possible was to be confined to these varnishes, particularly on formulations which were to be used at other plants.

If a new varnish is to be considered as standard, then one of the standard varnishes should be replaced. Any suggestion of this nature is to be discussed at the next Technical Meeting.

Attached is a booklet which contains the physical and chemical constants of these standard varnishes. Keep in mind these constants are on the original varnishes and the composition may not necessarily be in accord with the present varnishes due to the raw material situation.

However, our standard varnishes have certain definite characteristics and are used for certain definite purposes. Therefore, the properties should at all times remain comparative regardless of the variation in ingredients.

For an example, V-112, regardless of whether it is made with wood oil or dehydrated castor oil, represents a long oil varnish. V-705, regardless of whether it is made with wood oil or Kellin, should represent a neutral varnish of 25 gallon oil length. V-357 represents a varnish 16 to 18 gallon oil length and one which can be used in standard trade sales items with good dry, body and color.

It is up to each department head to see that standard varnishes are first tried in any development work and used wherever possible.

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E. Schulte