

Macro-Powders (for Textures and More)

Shamrock's range of Powder Capabilities extends from the SubMicron to larger, flowable powders. These "Macro-Powders" are used to provide enhanced abrasion and wear resistance in thicker coatings while providing a variety of textured feel, from a Smooth/Silky/Soft-feel to the Rough/Sand-feel. Special Effects Coatings may be formulated with variations and/or combinations from the following range:

PP Series: A high melting (150°C) wax with controlled particle size for non-skid, texturing and abrasion resistance.					
Product	Shape	MV (um)	Slip*	Abrasion*	Application Notes
SPP-10	Irregular	10	3	7	Excellent NonSkid Additive for Flexible Packaging Inks and Coatings
SPP-25	Irregular	25	3	7	Suede-like Feel and Matting for Publication, Packaging, and Milspec Coatings
SPP-40	Irregular	40	2	7	Raised Texture Effect for UV Coatings for Packaging and Floor Coatings
SPP-300	Irregular	300	1	7	Large Texture for Floor Coatings

PTFE Series: A high melting (320-330°C) fluoropolymer with controlled particle size for consistent fine texturing and slip.					
Product	Shape	MV (um)	Slip*	Abrasion*	Application Notes
PowderTEX 11	Irregular	-	5	6	A Submicron PTFE Offering Smooth Fine Texture and Matting for Powder Coatings
PowderTEX 61	Irregular	-	4	6	Powder Coating Matting Agent with a Dry-Feel Micro-Texture Effect at 0.2-0.5% Dosage
PowderTEX 94	Irregular	-	5	7	Pure PTFE Texture Agent that Matts with Consistent Abrasion Resistance for Powder Coatings
FluoroTEX™ 50/90/130	Irregular	50/90/130	8	8	Large PTFE Particles for Controlled Raised Texture & Abrasion for Liquid Coatings

High MW PE Series								
Product	MP (°C)	Specific Gravity 25°C	Shape	MV (um)	Feature	Appearance	Slip*	Abrasion*
Texture 5374W	144	0.93	Spherical	28	Texture	Flowable Powder	5	9
Texture UltraFine	144	0.93	Spherical	35	Texture	Flowable Powder	5	9
Texture 5378W	144	0.93	Spherical	50	Texture	Flowable Powder	5	9
Texture 5380W	144	0.93	Spherical	65	Texture	Flowable Powder	5	9
Texture 5382W	144	0.93	Spherical	80	Texture	Flowable Powder	5	9
Texture 5384W	144	0.93	Spherical	110	Texture	Flowable Powder	5	9
Texture 5386W	144	0.93	Spherical	150	Texture	Flowable Powder	5	9
Texture 5388W	144	0.93	Spherical	165	Texture	Flowable Powder	5	9

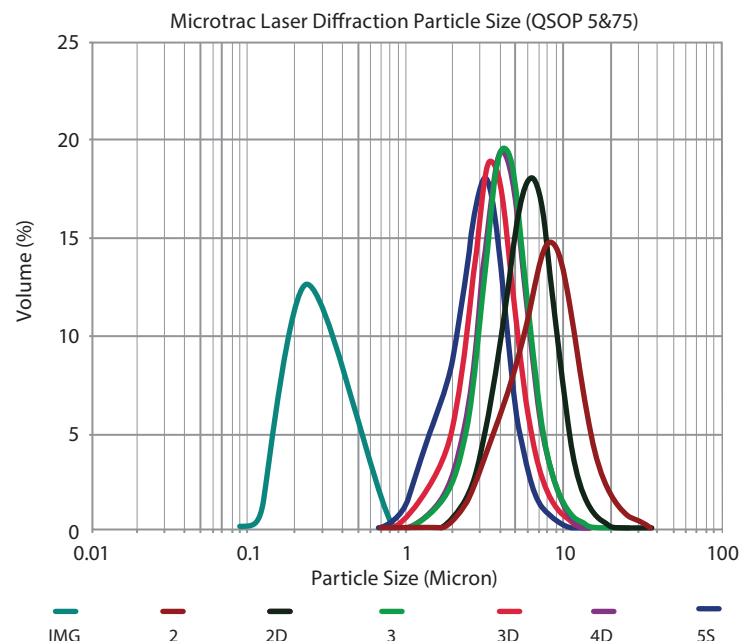
PMMA Series								
Product	MP (°C)	Specific Gravity 25°C	Shape	MV (um)	Feature	Appearance	Slip*	Abrasion*
Tex MATTE 6005	260	1.2	Spherical	5-8	Texture/Abrasion	Flowable Powder	5	9
Tex MATTE 6010	260	1.2	Spherical	8-11	Texture/Abrasion	Flowable Powder	5	9
Tex MATTE 6017	260	1.2	Spherical	19	Texture/Abrasion	Flowable Powder	5	9
Tex MATTE 6030	260	1.2	Spherical	35	Texture/Abrasion	Flowable Powder	5	9

Note: The numbers listed in this brochure are typical numbers for use as reference only and shouldn't be used as specifications for the products.

中国
 三叶科技(天津)有限公司
 天津经济技术开发区
 第九大街丰华工业园二期5号厂房
 电话: (86) 22 5981 3085 | 传真: (86) 22 5981 3099
 cmc@shamrocktechnologies.com.cn

Belgium
 Shamrock Technologies, bvba
 Heersterveldweg, 21
 B-3700 Tongeren, Belgium
 Tel: (32) 1245 8330 | Fax: (32) 1245 8340
 www.shamrockeurope.com

Headquarters
 Shamrock Technologies, Inc.
 Foot of Pacific Street
 Newark, NJ 07114
 Tel: (973) 242 2999 | Fax: (973) 733 2143
 marketing@shamrocktechnologies.com

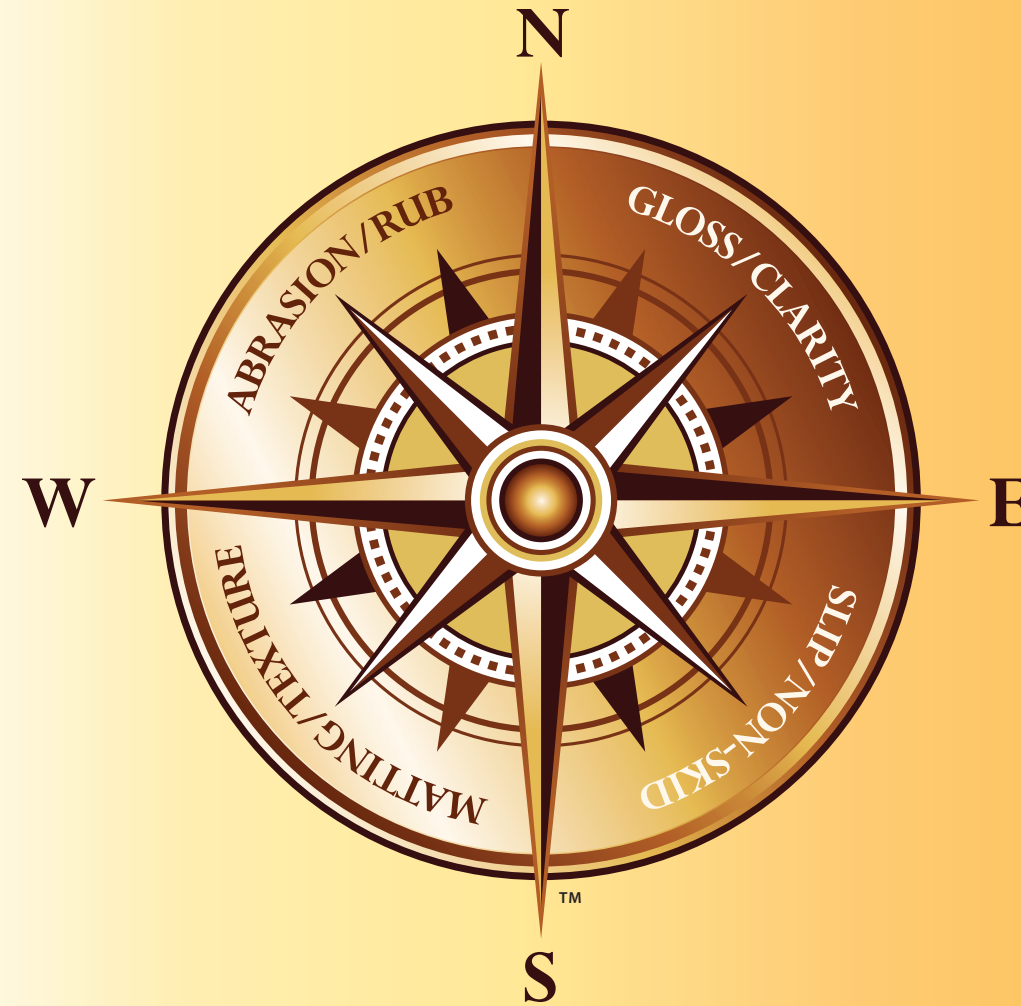


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FLUOROPOLYMERS AND WAXES



SHAMROCK



Enhance and Protect

- Micronized Waxes
- PTFE Micropowders
- Dispersions
- Macro-Powders

Micronized Powders

PTFE (SST® Series): A high melting (320-330°C) micronized fluoropolymer with specific gravity of 2.1-2.2 that offers excellent slip and consistent rub and abrasion resistance in a wide variety of inks and coatings.							
Product	MV (um)	99%< (um)	NPIRI	Hegman	Slip*	Abrasion*	Application Notes
SS1®-1MG	1-2	8	2	7	10	8	Emulsion Based Submicron PTFE
SS1®-2D	8	22	3.5	6.0	10	8	Recommended for Variable Film Thickness Inks & Coatings
SS1®-3	5	15	2.5	6.5	10	8	Most Widely Used PTFE for General Applications
SS1®-3D	4	12	2.0	7	10	8	PTFE with Controlled Distribution and Dispersion
SS1®-4P	4	12	2.0	6.5	10	8	Finer Particle Size Off-white PTFE
SS1®-4D	3	10	2.0	7.0	10	8	Premium PTFE for Thin Films
SS1®-5S	3	8	2.0	6.5	10	8	PTFE With Tightly Controlled Particle Size

PE WAX: A range of micronized waxes with varying molecular weights, densities (0.93-0.98 g/cc), melting points (97-130°C), hardness and solubility for a wide range of applications.								
Product	MP (°C)	Grade	MV (um)	NPIRI	Hegman	Slip*	Abrasion*	Application Notes
S-379	97	H/N8	9/12	5/8	6/5	7	3	Most Widely Used Wax for Slip In General Applications
S-394	112	MG/N1/N5	4/6/8	2/2.5/5	7/6.5/6	5	5	Medium MW Wax for Rub and Mar Resistance
S-395	125	N2/N5/Sp5	5/8/10	2.5/5/9	6.5/6/5	3	8	Higher MW Wax for Abrasion Resistance
S-483	113	-	8	5	6	4	7	Spherical Wax for Easy Dispersion
Taber Tiger 5512	128	-	15	-	5	3	10	For Thicker Films with Best Scuff and Abrasion Resistance
Neptune 5223	104	N4	9	5	6	6	4	Oxidized Wax for Water Based Systems

Wax Alloys: Formulated waxes with a wide range of properties designed for easy dispersion and specific performance features.										
Product	MP (°C)	Specific Gravity 25°C	Grade	MV (um)	NPIRI	Hegman	Slip*	Abrasion*	Feature	
S-232	110	0.97	MG/N1/N5	3-4/4-6/7-9	2/2.5 max/3.0-5	6.5/6.0/6.0	5	6	Gloss/Release	
S-256	111	1	N1	5	2.5 Max	6.5 Min	5	5	Rub, Mar	
S-363	140	0.94	D	4-6	2.5	6.0-7.0	2	9	Matting/Abrasion	
S-381	98	0.93	N1/N5	5-7/8-10	2.5 max/5	6.0-7.0	7	3	Slip/Matting/Clarity	
S-400	144	0.98	N1/N5/SP5	4-6/7-9/9-11	2.5/5/9	6.5/6.0/5.0	8	2	Slip/Release	
LoANGLE 5413	146	0.95	-	12.5	5	4	7	4	Slip	
NonSKID 59	150	0.93	-	7.0-10	4.5-6.5	5.0-6.0	0	8	Anti-Slip	
TaberPLUS 75	129	0.98	-	5.0-8.0	5	7.0	6	6	Abrasion	
HydroPELQB	93	0.88	-	8.0-10.0	3.0-6.0	5.0-6.0	-	-	Water repellency	
S-Nauba 5021	85	0.995	-	5.0-8.0	5.0	6.5	8	2	Gloss/Slip/Mar	

PE/PTFE: PTFE-enhanced waxes with controlled dispersion features to provide optimum balance of slip and abrasion properties.							
Product	MP of Wax (°C/°F)	MV (um)	NPIRI	Hegman	Slip*	Abrasion*	Application Notes
FluoroSLIP® 225	100/212	9	5	6	7	4	Widely Used PTFE+PE Wax Combination for General Applications
FluoroSLIP® 421T	110/230	5	2.5	7	8	6	Premium Combination for Thin Film, Clear Coatings
FluoroSLIP® 511	125/255	5	5	6	7	8	Higher MW Wax for Abrasion Resistance with Good Slip
FluoroSLIP® 533	105/220	9	5	6	7	5	PTFE Enhanced Oxidized Wax
FluoroSLIP® 605	114/238	7	6	6	7	6	Easy dispersibility
FluoroSLIP® 731MG	111/232	5	2.5	7	8	6	Easy-To-Disperse Alloy For Water Based Systems
FluoroSLIP® 893-A	110/230	5	3	6	8	6	Spherical, Great Slip for Thin Films



Key: Slip*/Rub*/Abrasion*, 10–Best, 0–Worst
 Test Method: Solids Content %–ASTM D 2369, NPIRI Grind–ASTM D 1316, Hegman Grind–ASTM D 1210

Wet Dispersions**

PTFE in Oil: These oleoresinous based dispersions are formulated to a NPIRI 2.5 max grind, offering consistent rub and slip for lithographic inks including heatset, quickset offset, and overprint varnishes for both web and sheetfed systems.				
Product	Solids %	Slip*	Rub*	Application Notes
FluoroSPERSE® 153V	50	8	8	Most Widely Used PTFE Dispersion for All Offset Inks and OPVs
FluoroSPERSE® 6153V	50	8	8	A Lower Cost, Darker Shade Dispersion (Gray-Black) for Cyans and Magentas
FluoroSPERSE® 966	60	9	9	Premium, High Loading PTFE Dispersion with Controlled Particle Size Distribution
FluoroSPERSE® 7908	50	8	8	Economical Gray Dispersion

PTFE in Water: Designed with stability features optimized for easy incorporation into water based systems.							
Product	Solids %	MV (um)	NPIRI	Hegman	Slip*	Abrasion*	Application Notes
AquaFLON® 50	50	<2	1.5	7	10	4	Emulsion Based PTFE for Thin Film Coatings
AquaFLON® 52	60	3	2.0	7	7	8	Most Widely Used PTFE Dispersion
AquaFLON® 178G	52	6	4	6.5	8	7	PE/PTFE Dispersion for Both Slip and Abrasion
AquaFLON® 797	45	7	4	6	6	9	PE/PTFE Dispersion for Scuff and Abrasion Resistance
AquaFLON® MG	48	5	2.5	6 Min	8	6	PTFE/Wax Alloy for Thin Clear Coatings

Wax in Water: A range of micronized waxes pre-dispersed for ease of operation.									
Product	S.C. %	Composition	Carrier	MV (um)	NPIRI	Hegman	Slip*	Abrasion*	Feature
HydroCER 145	50	AMIDE	Non-ionic	10	5.0	5.5	8	2	Slip
HydroCER 257	45	PE	Non-ionic	10	4.0	6.5	7	3	Slip
HydroCER 303	35	Polyethylene Wax	Anionic	20	8-10	4	5	6	Slip, Abrasion
HydroCER 357	50	High MW PE	Non-ionic	10	4.5 Max	5.5	5	6	Slip/Abrasion
HydroCER D-336	33-39	Paraffin/Polyethylene	Anionic	9	5.5	6	6	5	Slip, Water Beading
HydroCER EE-95	26	Polyethylene Wax	Anionic	<1	-	-	6	3	Slip, Mar, Clarity
HydroCER ER-77	40	PP	Non-ionic	<1	-	-	0	2	Non Skid

Wax Compounds: Pre-dispersed waxes with controlled crystalline sizes.									
Product	S.C. %	Composition	Carrier	MV (um)	NPIRI	Hegman	Slip*	Rub*	Feature
CeraSPERSE 31	18	Carnauba	Butyl Carbitol	-	2	6.5 Min	8	3	Slip, Mar, Clarity
CeraSPERSE 171	38	PE	Vegetable oil	-	2.0	-	7	8	Slip/Rub
CeraSPERSE 174	47	PE/PTFE	Linseed oil	-	2.0	-	9	9	Slip/Rub
CeraSPERSE 442DV	45	Microcrystalline/PTFE	Ink Oil	-	2.0 Max	-	10	7	Slip/Abrasion

UV Compounds: Fine sized wax crystals dispersed in UV carrier.									
Product	S.C. %	Composition	Carrier	MV (um)	NPIRI	Hegman	Slip*	Abrasion*	Feature
CeraSPERSE UV-636	25	Carnauba	TRPGDA	2.0-3.0	3.5 Max.	6.5 Min.	8	5	Slip/Abrasion
CeraSPERSE UV-691	25	Oxidized-PE	TRPGDA	2.0-3.0	3.5 Max.	6.5 Min.	5	5	Slip/Abrasion/Gloss
FluoroSPERSE® UV-808	40	PTFE	TRPGDA	3.5	2	6.5	7	8	Rub, Abrasion
UltraMATTE UV-50GDA	50	Polyethylene Wax	TRPGDA	8	6.5	6.0 Min.	4	6	Matting

Problem Solvers					
Product	S.C. %	Appearance	Specific Gravity 25°C	Viscosity (cPs)	Feature
AquaPEL Series	100	Amber Liquid	-	320	Hydrophobic Agent
NoFoam	100	Green Liquid	1.01	3,000-11,000	Anti-foam
VersaFLOW Base	100	Pale Yellow Liquid	0.86	620-970	Defoaming/Leveling/Slip
VersaFLOW EV	100	Clear Liquid	0.84	740-1140	Defoaming/Leveling/Slip

** Shamrock manufactures Premium Dispersions of its range of Micronized Powders. The Products listed above are a summary of the Key Dispersions readily available, however, we are able to formulate on a Make-to-Order basis for specialty requirements.