DURAPLUS™ 3

Floor Finish Polymer

Description

DURAPLUS™ 3 Floor Finish Polymer is a modified acrylic polymer that offers high gloss and exceptional durability, which are characteristics of DURAPLUS technology, and is specially modified to have excellent resistance to harsh detergent solutions. Because it is based on mixed metals crosslinking DURAPLUS technology, DURAPLUS 3 polymer offers a level of unsurpassed durability, while also offering very good response to high speed burnishing operations.

Dow offers DURAPLUS 3-based polishes with a distinct combination of polish hardness, resilience, and an undetectable level of ammonia odor. This helps DURAPLUS 3-based polishes to dissipate the energy of foot traffic, impacts and abrasion, offering excellent resistance to black marks and scuffing, as well as gloss retention. All of these benefits assure notable labor savings.

Performance Benefits

- **Durability**—Formulations based on DURAPLUS™ 3 polymer have excellent scuff, black heel mark and overall wear resistance.
- **Lower Costs**—Polishes made with DURAPLUS 3 offer decreased labor and equipment costs for end users through a less frequent need to buff, burnish, and recoat, and through a reduction in the number of floor strippings.
- **Gloss**—DURAPLUS 3-based formulations have notable lay down gloss and gloss retention.
- **Low Odor**—Polishes made with DURAPLUS 3 have low ammonia odor.
- **Detergent Resistance and Removability**—Polishes made with DURAPLUS 3 have an extremely high level of resistance to a variety of harsh detergent solutions. At the same time these polishes maintain the ability to be removed with a mild stripper.

Standard Performance Characteristics

As with all Dow floor polish polymers, DURAPLUS™ 3 polymer shares a number of common performance characteristics.

DURAPLUS 3 facilitates formulating flexibility to offer a range of performance profiles from minimum maintenance to frequent burnishing. The suggested polish formulations made with DURAPLUS 3 meet or exceed an industry slip resistance standard as tested by the Standard Test Method ASTM D-2047. These polishes can be formulated to a range of solids levels from 15 to 25 percent. DURAPLUS 3 offers the manufacture of polishes that can be applied at floor temperatures of 50°F (10°C) and above.

Physical Properties

The following are typical properties of DURAPLUS™ 3; **they are not to be considered product specifications.**

Appearance:	Milky-white liquid
Solids content:	38 ± 0.5%
Minimum Film-Formation Temperature (MFFT):	~65°C
pH:	8.0 - 9.0
Viscosity (Brookfield LVT, #1 spindle, 60 rpm):	< 100 cP
Density @ 25°C (Lb./U.S. gal.):	~ 8.8
Specific gravity:	1.07
Ionic charge:	Anionic
Freeze/thaw stability:	≥ 3 cycles

DURAPLUS™ 3 Formulation DP-3-5 (25%)

Formulation DP-3-5 is a high solids formulation offering high gloss, exceptional durability, and excellent detergent resistance and is an excellent choice for maintenance systems which provide periodic high speed machining. DP-3-5 is formulated with RHOPLEX™ 1531C, a high gloss, all-acrylic, alkali-soluble emulsion, which imparts excellent leveling characteristics.

Material in Proper Order of Addition	Percent by Weight	LBS/ 100 US GAL	Gallons/ 100 US GAL
Water	32.42	277.50	33.25
KATHON™ CG/ICP Preservative	0.04	0.34	0.04
Abex 18S (35%) anionic surfactant	0.50	4.28	0.50
Capstone FS-65 fluorosurfactant[1]	0.05	0.42	0.05
CARBITOL™ Solvent, low gravity	5.67	48.60	5.88
Eastman TXIB additive	1.46	12.50	1.59
Tri(butoxyethyl) phosphate plasticizer	2.67	22.90	2.70
DURAPLUS™ 3 polymer	49.56	424.50	48.24
RHOPLEX™ 1531C emulsion (38%)[2]	2.82	24.18	2.75
A-C 540N ethylene-acrylic copolymer (30%)[3]	3.73	31.99	3.89
A-C 325N polyethylene polymer (35%)[4]	1.06	9.10	1.09
Defoamer[5]	0.02	0.17	0.02
Totals =>	**100.00**	**856 .48**	**100.00**

Formulation Constants		
	Theoretical Non-Volatile Solids :	25%
	Theoretical Density, Lb./U.S. Gal.	~8.6
	Polymer/Resin/Wax ratio:	88/5/7

[1] Recommended Wetting Agent: Capstone FS-65 (supplied by DuPont at 25% active solution)
[2] Alternative Alkali Soluble Resins: Michem Dispersion MD-91530
[3] Commercial Trade Names: Michem Emulsion 44730 (30%) and BYK wax emulsion, Aquacer 8840 (30%)
[4] Commercial Trade Names: Michem Emulsion 93235 (35%) and BYK Wax emulsion Aquacer 8059 (35%)
[5] Recommended Defoamer: DEE FO PI-40 Münzing, info@munzing.us

DURAPLUS™ 3 Formulation DP-3-6 (20%)

Formulation DP-3-6 (20%) is a lower solids version of DP-3-5 offering high gloss, exceptional durability, and excellent detergent resistance and is an excellent choice for maintenance systems which provide periodic high speed machining.

Material in Proper Order of Addition	Percent by Weight	LBS/ 100 US GAL	Gallons/ 100 US GAL
Water	45.91	391.22	46.87
KATHON™ CG/ICP Preservative	0.04	0.34	0.04
Abex 18S (35%) anionic surfactant	0.40	3.41	0.40
Capstone FS-65 fluorosurfactant[1]	0.04	0.34	0.04
CARBITOL™ Solvent, low gravity	4.54	38.66	4.68
Eastman TXIB additive	1.17	9.96	1.27
Tri(butoxyethyl) phosphate plasticizer	2.14	18.22	2.15
DURAPLUS™ 3 polymer	39.64	337.78	38.38
RHOPLEX™ 1531C emulsion (38%)[2]	2.26	19.24	2.19
A-C 540N ethylene-acrylic copolymer (30%)[3]	2.99	25.46	3.09
A-C 325N polyethylene polymer (35%)[4]	0.85	7.24	0.87
Defoamer[5]	0.02	0.17	0.02
Totals =>	**100.00**	**852 .04**	**100.00**

Formulation Constants		
	Theoretical Non-Volatile Solids	20%
	Theoretical Density, Lb./U.S. Gal.	~8.5
	Polymer/Resin/Wax Ratio	88/5/7

[1] Recommended Wetting Agent: Capstone FS-65 (supplied by DuPont at 25% active solution)
[2] Alternative Alkali Soluble Resins: Michem Dispersion MD-91530
[3] Commercial Trade Names: Michem Emulsion 44730 (30%) and BYK wax emulsion, Aquacer 8840 (30%)
[4] Commercial Trade Names: Michem Emulsion 93235 (35%) and BYK Wax emulsion Aquacer 8059 (35%)
[5] Recommended Defoamer: DEE FO PI-40 Münzing, info@munzing.us

DURAPLUS™ 3 Formulation DP-3-7 (20%)

Formulation DP-3-7 offers high gloss, excellent durability, and detergent resistance. Formulation DP-3-7 has been optimized for maintenance systems requiring frequent high speed machining.

Material in Proper Order of Addition	Weight Percent	LBS/100 US GAL	Gallons/100 US GAL
Water	47.05	400.07	47.92
KATHON™ CG/ICP Preservative	0.04	0.34	0.04
Capstone FS-65 fluorosurfactant[1]	0.04	0.31	0.04
CARBITOL™ Solvent, low gravity	4.56	38.75	4.69
Eastman TXIB additive	1.15	9.77	1.24
Tri(butoxyethyl) phosphate plasticizer	2.57	21.84	2.58
DURAPLUS™ 3 Polymer	34.92	296.81	33.73
RHOPLEX™ 1531C emulsion (38%)[2]	2.26	19.20	2.18
Epolene E43N polypropylene polymer (40%)[3]	2.53	21.50	2.58
A-C 325N polyethylene polymer (35%)[4]	4.86	41.30	4.98
Defoamer[5]	0.02	0.17	0.02
Totals =>	**100.00**	**850 .06**	**100.00**

Formulation Constants		
	Theoretical Non-Volatile Solids	20%
	Theoretical Density, Lb./U.S. Gal.	~8.5
	Polymer/Resin/Wax Ratio	79/5/16

[1] Recommended Wetting Agent: Capstone FS-65 (supplied by DuPont at 25% active solution)
[2] Alternative Alkali Soluble Resins: Michem Dispersion MD-91530
[3] Commercial Trade Names: Michem Emulsion 44730 (30%) and BYK wax emulsion, Aquacer 8840 (30%)
[4] Commercial Trade Names: Michem Emulsion 93235 (35%) and BYK Wax emulsion Aquacer 8059 (35%)
[5] Recommended Defoamer: DEE FO PI-40 Münzing, info@munzing.us

These formulation suggestions are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use of our products are beyond our control. We recommend that the prospective user determine the suitability of our materials and suggestions before adopting them on a commercial scale.

Handling Precautions

Before using this product, consult the Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

Storage

Store products in tightly closed original containers at temperatures recommended on the product label.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including Safety Data Sheets, should be consulted prior to use of Dow products. Current Safety Data Sheets are available from Dow.

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