# THE PERFORMANCE & CUSTOMIZATION YOU NEED.
# THE SOLUTIONS YOU SEEK.

Honeywell Specialty Additives – Processing Aids

Honeywell

# THE SOLUTIONS YOU SEEK

Honeywell Specialty Additives is the world's first commercial manufacturer of low molecular weight polyolefin polymers and the innovator of formulated wax blends for the PVC industry. Our network of Application Laboratories in the U.S., India and China distinguishes us as a leading solutions provider with capabilities to serve our customers around the world.

These labs are equipped with a wide variety of extrusion equipment and extensive analytical capabilities to service the PVC processing, color master batch and plastics industries. Our chemists and engineers have many years of industry experience in the applications we serve and are highly skilled at formulating products that meet your individual needs.

We blend creativity and customization to deliver the solutions you seek.

# PRODUCT FEATURES & BENEFIT GUIDE

A-C® Performance Additives is the most recognized brand from one of the leading manufacturers of low molecular weight polyethylene polymers for the Plastics industry. We help you develop a performance solution by translating your needs into functional requirements. Using our scale and know-how, we manufacture products that deliver that functionality consistently. The A-C product line includes homopolymers, oxidized homopolymers, copolymers, and functionally grafted polymers.

## A-C® PERFORMANCE ADDITIVES

### COLOR CONCENTRATES

#### Potential product design and process benefits:

- Improved output rates
- Reduced maintenance costs
- Flexibility in manufacturing
- Higher pigment loading
- Convenient product forms
- Improved pigment dispersion
- Higher chroma
- Broad resin compatibility

#### Potential end user advantages:

- Reduced pigment costs
- Improved pigment dispersion in film and fiber
- More pigments available for use in applications
- Greater flexibility in design of colored products
- Higher color strength

### PLASTICS

#### Potential product design and process benefits:

- Improved dispersion of fillers and impact modifiers
- Reduced power consumption
- Increased extrusion speeds
- Effective nucleating agent for expanded polystyrene

#### Potential end user advantages:

- Greater impact strength
- Reduced operating costs
- More uniform part surface appearance
  Improved release performance

RHEOCHEM® PVC lubricants have been recognized as the leading brand of customized wax blends in the rigid PVC industry for over 35 years. Honeywell's broad portfolio of specialized lubricants offers chemistries that include paraffin and hydrocarbon waxes, fatty acid esters and amides, specialty stearates, and oxidized or non-oxidized low molecular weight polyethylenes.

## RHEOCHEM® PVC LUBRICANTS

### PVC PROCESSING

#### Potential product design and process benefits:

- Improved batch to batch consistency
- Increased melt consistency, fusion control, metal release and compound powder flow
- Improved melt temperature control
- Reduced extruder amperage
- Reduced plate-out

#### Potential end user advantages:

- Reduced line adjustments
- Enhanced surface appearance
- Reduced screw marks and wavy pipe
- Reduced scrap rates
- Improved production rates
- Improved dimensional stability
- Reduced operating costs

This guide highlights our typical product offerings; however Honeywell's technical expertise coupled with creativity in the delivery of solutions can bring you a material to satisfy your individual needs. For more information please visit us at **www.acwax.com** & **honeywell-additives.com**.

## A-C® Performance Additives

## Typical Properties

| A-C® POLYETHYLENES & COPOLYMERS | METTLER DROP POINT (ASTM D-3954) | HARDNESS DMM (ASTM D-5) | DENSITY G/CC (ASTM D-1505) | VISCOSITY CPS @140°C BROOKFIELD | SAPONIFICATION # MG KOH/G (ASTM D-1386) | PHYSICAL FORM |
|---|---|---|---|---|---|---|
| **Homopolymers** | | | | | | |
| A-C 3A | 112°C 234°F | 2.0 | 0.92 | 450 | Nil | Powder |
| A-C 6, 6A | 106°C 223°F | 4.0 | 0.92 | 375 | Nil | Prills, Powder |
| A-C 8, 8A | 113°C 235°F | 1.0 | 0.93 | 450 | Nil | Prills, Powder |
| A-C 9, 9A | 115°C 239°F | 0.5 | 0.93 | 450 | Nil | Prills, Powder |
| A-C 16A | 102°C 216°F | 5.5 | 0.91 | 525 | Nil | Powder |
| A-C 617, 617A | 101°C 214°F | 7.0 | 0.91 | 180 | Nil | Prills, Powder |
| **Low-Density Oxidized Homopolymers** | | | | | | |
| A-C 629, 629A | 101°C 214°F | 5.5 | 0.93 | 200 | 15 | Prills, Powder |
| A-C 680, 680A | 108°C 226°F | 1.5 | 0.95 | 250 | 16 | Prills, Powder |
| **High-Density Oxidized Homopolymers** | | | | | | |
| A-C 307, 307A | 140°C 284°F | <0.5 | 0.98 | 85000 | 7 | Granule, Powder |
| A-C 316, 316A | 140°C 284°F | <0.5 | 0.98 | 8500[1] | 16 | Granule, Powder |
| A-C 325 | 136°C 277°F | <0.5 | 0.99 | 4400[1] | 25 | Granule |
| A-C 330 | 137°C 279°F | <0.5 | 0.99 | 3600[1] | 30 | Granule |
| A-C 392 | 138°C 280°F | <0.5 | 0.99 | 4500[1] | 30 | Granule |
| **Copolymers/ Ethylene-Acrylic Acid** | | | | | | |
| A-C 540, 540A | 105°C 221°F | 2.0 | 0.93 | 575 | 40 | Prills, Powder |
| **Copolymers/ Ethylene-Vinyl Acid** | | | | | | |
| A-C 400, 400A | 92°C 198°F | 9.5 | 0.92 | 500 | 13% Vinyl Acetate | Prills, Powder |

| ACLYN® LOW MOLECULAR WEIGHT IONOMERS | MELTING POINT 2 | CATION TYPE | ACID NUMBER MG KOH/G | VISCOSITY CPS @140°C BROOKFIELD | PHYSICAL FORM |
|---|---|---|---|---|---|
| AClyn 201P, 201A | | | | | |
| 102°C 215°F | Ca | 42 | 5500 | Pastilles, Powder | Nil |
| ACLYN 285P, 285A | 82°C 180°F | Na | 20 | 80000 | Pastilles, Powder |

| MODIFIED OLEFIN PRODUCTS | METTLER DROP POINT (ASTM D-3954) | HARDNESS DMM (ASTM D-5) | DENSITY G/CC (ASTM D-1505) | VISCOSITY CPS @140°C BROOKFIELD | SAPONIFICATION # MG KOH/G | PHYSICAL FORM |
|---|---|---|---|---|---|---|
| **Ethylene Maleic Anhydride Copolymers** | | | | | | |
| A-C 573P, 573A | 106°C 223°F | 4.5 | 0.92 | 600 | 5 | Pastilles, Powder |
| **Propylene Maleic Anhydride Copolymers** | | | | | | |
| A-C 597P, 597A | 143°C 290°F | <0.5 | 0.94 | 500 | 80 | Pastilles, Powder |
| A-C 950P | 153°C 307°F | <0.5 | 0.93 | 2000 | 43 | Pastilles |

| POLYPROPYLENE HOMOPOLYMERS | METTLER DROP POINT (ASTM D-3954) | HARDNESS DMM (ASTM D-5) | DENSITY G/CC (ASTM D-1505) | VISCOSITY CPS @140°C BROOKFIELD | SAPONIFICATION # MG KOH/G | PHYSICAL FORM |
|---|---|---|---|---|---|---|
| A-C 1089 | 146°C 295°F | <0.5 | 0.91 | 45 | Nil | Powder |
| A-C 1662 | 150°C 302°F | <0.5 | 0.89 | 60 | Nil | Powder |

**Environmental Considerations:** A-C polyethylenes and specialty additives are essentially inert and insoluble in water. Materials may be disposed of as non-hazardous solid organic waste. Spillage is not expected to cause adverse environmental effects.

**Safety Precautions:** A-C polyethylenes and specialty additives are non-hazardous at ambient temperatures. Consult Material Safety Data Sheets for complete information.

**Packaging /Shipping :** A-C polyethylenes and specialty additives are typically supplied in 25 kg four-ply kraft bags. Products in bags are shipped on pallets, 40 bags to a pallet, net weight 1,000 kgs, and stretched-wrapped. Pallet loads are approximately 51 inches long, 44 inches wide, and up to 57 inches high, depending on product and bulk density. Special packaging is available to meet customer requirements.

[1]Measured at 150°C
[2]Determined by Differential Scanning Calorimetry

## RHEOCHEM® PVC Lubricants

## Typical Properties

Honeywell is continually developing innovative lubricant and additive technology for vinyl pipe, window, door profile and siding extrusion applications. Rheochem Lubricant Systems are available as standard products but are typically designed as customized formulations to meet individual customer requirements. Honeywell's tailored solutions enable our customers to reach peak production and superior product performance.

| RHEOLUB® PARAFFIN & HYDROCARBON LUBRICANTS | CONGEALING POINT | VISCOSITY @ 99°C (210°F) | "ACID # (MG KOH/G)" | SPECIFIC GRAVITY | COLOR | NSF/PPI STATUS[2] | USAGE LEVEL RANGE | VISCOSITY BATH TEMP. |
|---|---|---|---|---|---|---|---|---|
| RL-165 | 69°C 156°F | 6.7 cSt | N/A | 0.91 | White | Y | 0.80-1.50 phr[3] | 210 F |
| RL-165 CODE 010 | 71°C 160°F | 7.5 cSt | N/A | 0.91 | White | Y | 0.80-1.50 phr[3] | 210 F |
| RL-250 | 72°C 162°F | 8.6 cSt | N/A | 0.91 | White | Y | 0.80-1.50 phr[3] | 210 F |
| RL-185 | 88°C 191°F | 7.8 cSt @ 240 °F | N/A | 0.91 | White | N | 0.80-1.50 phr[3] | 240 F |

| RHEOLUB® LUBRICANT SYSTEMS | CONGEALING POINT | VISCOSITY @ 99°C (210°F) | "ACID # (MG KOH/G)" | SPECIFIC GRAVITY | COLOR | NSF/PPI STATUS[2] | USAGE LEVEL RANGE | VISCOSITY BATH TEMP. |
|---|---|---|---|---|---|---|---|---|
| RL-315 code S | 76°C 168°F | 13.3 cSt | 1.5 | 0.91 | White | Y | 0.70-1.50 phr[3] | 210 F |
| RL-410 | 74°C 165°F | 12.7 cSt | 1.5 | 0.91 | White | Y | 0.70-1.65 phr[3] | 210 F |
| RL-510 | 104°C 220°F | 22 cSt @ 260 °F | 1.6 | 0.92 | Off White | N | 0.70-1.75 phr[3] | 260 F |
| RL-910 | N/A | 45 cSt @ 240 °F | 2.4 | 0.90 | Off White | N | 0.70-1.20 phr[3] | 240 F |

| RHEOLUB® SPECIALTY STEARATES & ESTERS | MELTING POINT | VISCOSITY @ 116°C (240°F) | "ACID # (MG KOH/G)" | SPECIFIC GRAVITY | COLOR | NSF/PPI STATUS[2] | USAGE LEVEL RANGE | VISCOSITY BATH TEMP. |
|---|---|---|---|---|---|---|---|---|
| RL-710 | 34°C 94°F 1 | 77 cSt | 14 | 0.88 | Tan | N | 0.25-1.50 phr[3] | 240 F |
| RL-720 | 57°C 135°F1 | 15 cSt | 24 | | Tan | Y | 0.60-1.50 phr[3] | 240 F |
| RL-830 | 54°C 129°F1 | 8.8 cSt | 6 | 0.88 | Tan | N | 0.50-1.50 phr[3] | 240 F |
| RL-1800 code 010 | N/A | 250 cSt | 17 | 0.97 | Tan | Y | 0.50-1.50 phr[3] | 240 F |
| RL-1800 code 020 | N/A | 200 cSt | 19 | 0.96 | Tan | Y | 0.50-1.50 phr[3] | 240 F |

| LUBRICANT PACKAGES | CONGEALING POINT | VISCOSITY @ 116°C (240°F) | "ACID # (MG KOH/G)" | SPECIFIC GRAVITY | COLOR | NSF/PPI STATUS[2] | USAGE LEVEL RANGE | VISCOSITY BATH TEMP. |
|---|---|---|---|---|---|---|---|---|
| TLP-2030 | N/A | 32 cSt | 10 | 0.93 | Slightly Yellow | Y | 1.70-2.50 phr[3] | 240 F |
| TLP-2620 | N/A | 85 cSt @ 260 °F | 9 | 0.93 | Slightly Yellow | Y | 1.65-2.30 phr[3] | 260 F |
| TLP-4007 | N/A | 370 cSt | 16 | 0.92 | Light Tan | N | 1.70-2.50 phr[3] | 240 F |
| FLP-3540 | N/A | 140 cSt | 18 | 0.95 | Light Tan | N | 3.00-3.50 phr[3] | 240 F |

| HIGH PERFORMANCE LUBRICANT™ PACKAGES | CONGEALING POINT | VISCOSITY @ 116°C (240°F) | "ACID # (MG KOH/G)" | | COLOR | NSF/PPI STATUS[2] | USAGE LEVEL RANGE | VISCOSITY BATH TEMP. |
|---|---|---|---|---|---|---|---|---|
| HPL-3118 | N/A | 225 cSt @ 260 °F | 31 | | Light Tan | N | 1.60-2.20 phr[3] | 260 F |
| HPL-6546 | N/A | 200 cSt @ 260 °F | 22 | | Light Tan | N | 1.60-2.20 phr[3] | 260 F |
| HPL-6805 | N/A | 79 cSt | 28 | | Tan | N | 0.90-1.25 phr[3] | 240 F |
| HPL-6830 | N/A | 37 cSt | 20 | | Yellow | N | 1.60-2.20 phr[3] | 240 F |
| HPL-6860 | N/A | 25 cSt @ 260 °F | 21 | | Yellow | N | 1.60-2.20 phr[3] | 260 F |
| HPL-6880 | N/A | 23 cSt @ 260 °F | 21 | | Yellow | N | 1.60-2.20 phr[3] | 260 F |
| HPL-6873 | 73°C 164°F | 16 cSt | 7.7 | | Light Tan | N | 2.50-3.50 phr[3] | 240 F |

**Packaging /Shipping :** RHEOCHEM® lubricants are in prilled form and typically supplied in 55 lb. kraft bags. Products in bags are shipped on pallets, 40 bags to a pallet, net weight 2,204 lbs, and stretched-wrapped. Pallet loads are approximately 51 inches long, 44 inches wide and up to 57 inches high depending on product and bulk density. Special packaging is available to meet customer requirements.

[1]DSC Melting Point
[2]NSF International/Plastics Pipe Institute
[3]Parts per hundred resin

**For additional information**
or to contact us, please visit:
honeywell-additives.com

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THE
FUTURE
IS
WHAT
WE
MAKE IT

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