

# PPG Mining Systems Guide

Corrosion, temperature and chemical resistant technologies to extend asset life

Learn more at ppgpmc.com

# Total solutions for the global mining industry

**We protect and beautify our customers' most valuable assets and partner with them to create sustainable innovations that drive mutual value**

At PPG, we partner with our customers to create sustainable innovations that drive mutual value. For over 140 years, we have been developing and delivering trusted paints, coatings, and specialty materials. Our dedication and creativity help us solve our customers' biggest challenges, collaborating closely to find the right path forward.

With more than 20 years of history in the mining industry, we work with customers across the globe to design and deliver a range of products that meet the industry's tough, specific needs.

We deliver protective coatings designed to withstand the rigorous demands of the mining industry. With decades of global research and development, we support all types of mining activities, including surface mining, underground mining, dredging, and in situ mining.

Our coatings protect against corrosion, extending the service life of valuable mining assets. This means less downtime, reduced service costs, and prevention of unplanned maintenance shutdowns. By improving productivity, we create long-lasting savings for our customers.



Trusted by customers for more than **140 years**

Global team of **innovators, achievers and partners**

Operations in more than **70+ countries**

# Dry area







| | Application Area | Category | Recommended Coating System | DFT (µm) | DFT (mils) |
|---|---|---|---|---|---|
| A | Crushing / Grinding, Milling, Hoppers | Low - C3 | PPG SIGMAFAST 278 | 180 | 7 |
| | | Medium - C4 | PPG SIGMAFAST 278 | 240 | 10 |
| | | High - C5 | PPG SIGMAZINC 68 GP | 60 | 2 |
| | | | PPG SIGMAFAST 278 | 200 | 8 |
| | | | Total | 260 | 10 |
| B | Structural Steel / Conveyors | Low - C3 - Interior | PPG SIGMAFAST 278 | 180 | 7 |
| | | Low - C3 - Exterior | PPG SIGMAFAST 278 | 120 | 5 |
| | | | PPG SIGMADUR 550 SERIES | 60 | 2 |
| | | | Total | 180 | 7 |
| | | Medium - C4 - Interior | PPG SIGMAFAST 278 | 240 | 10 |
| | | Medium - C4 - Exterior | PPG SIGMAFAST 278 | 180 | 7 |
| | | | PPG SIGMADUR 550 SERIES | 60 | 2 |
| | | | Total | 240 | 9 |
| | | High - C5 - Interior | PPG SIGMAZINC 68 GP | 60 | 2 |
| | | | PPG SIGMAFAST 278 | 200 | 8 |
| | | | Total | 260 | 10 |
| | | High - C5 - Exterior | PPG SIGMAZINC 68 GP | 60 | 2 |
| | | | PPG SIGMAFAST 278 | 140 | 6 |
| | | | PPG SIGMADUR 550 SERIES | 60 | 2 |
| | | | Total | 260 | 10 |

*Note: PPG SIGMASHIELD 880 should be considered as an alternative to PPG SIGMAFAST 278 in Maintenance / Brush & Roll projects*

# Wet area




| | Application Area | Category | Recommended Coating System | DFT (µm) | DFT (mils) |
|---|---|---|---|---|---|
| A | Concentration (Clarifier, Floatation, Thickener) | Interior - Neutral pH | PPG NOVAGUARD 840 or 890 | 300 | 12 |
| | | Interior - Acidic | PPG NOVAGUARD 6850 or PPG NOVAGUARD 4801 | 1100 | 44 |
| | | Exterior | See “Structural Steel” section on page 5, C3-C5 | 180 - 300 | 7 - 12 |
| B | Mixing Tanks | Interior - General | PPG SIGMASHIELD 880 | 300 | 12 |
| | | Interior - High Abrasive | PPG SIGMASHIELD 1200 | 500 | 20 |
| | | Tank Exterior | See “Structural Steel” section on page 5, C3-C5 | 180 - 300 | 7 - 12 |
| C | Water Treatment Area | Tank Interior - Potable Water | PPG SIGMAGUARD CSF 585 | 300 | 12 |
| | | Tank Interior - Process Water | PPG SIGMASHIELD 880 | 300 | 12 |
| | | Tank Exterior | See “Structural Steel” section on page 5, C3-C5 | 180 - 300 | 7 - 12 |
| | | Pipes Exterior | PPG SIGMASHIELD 880 | 350 | 14 |

*Note: For custom solutions or to see if a product is available in your region, please reach out to your PPG local representative*



# Wet area (continued)










| | Application Area | Category | Recommended Coating System | DFT (µm) | DFT (mils) |
|---|---|---|---|---|---|
| D | Leaching / Refining (including Electrowinning & sulphuric acid plants) | Tank Interior | PPG NOVAGUARD 6850 or PPG NOVAGUARD 4801 | 1100 | 44 |
| | | Tank Exterior | PPG SIGMAFAST 278 | 180 | 7 |
| | | | PPG SIGMADUR 550 Series or PPG PSX 700 | 75 | 3 |
| | | | Total | 255 | 10 |
| | | Secondary Containment | PPG NOVAGUARD 6850 or PPG NOVAGUARD 4801 | 1100 | 44 |
| E | High Temperature | 175°F - 500°F (80°C - 260°C) | PPG DIMETCOTE 9 or PPG SIGMAZINC 158 | 75 | 3 |
| | | | PPG SIGMATHERM 540 or PPG HI-TEMP 500 | 50 | 2 |
| | | | Total | 125 | 5 |
| | | > 500°F (>260°C) | PPG DIMETCOTE 9 or PPG SIGMAZINC 158 | 75 | 3 |
| | | | PPG SIGMATHERM 540 or PPG HI-TEMP 500 | 50 | 2 |
| | | | Total | 125 | 5 |
| | | CUI < 400 °F (< 205°C) | PPG SIGMATHERM 230 | 250 | 10 |
| | | CUI > 400 °F (> 205°C) | PPG HI-TEMP 1027 SERIES | 250 | 10 |
| F | Flooring | Antiskid | PPG FLOORING 912 LV | 250 | 10 |
| | | | PPG PSX 700 + PPG ANTI-SKID | 125 | 5 |
| | | | Total | 375 | 15 |
| | | Acid Exposure | PPG NOVAGUARD 6850 | 1000 | 40 |

# Featured products

## The latest innovations

### High-performance primer solutions

**PPG DIMETCOTE 9 SERIES**
Moisture-curing zinc silicate primer for structural steel, providing heat resistance up to 650°C (1,200°F) and excellent corrosion protection, compliant with SSPC-Paint 20 and ASTM standards.SSPC-Paint 20 and ASTM standards.

**PPG SIGMAZINC® 68 GP**
High solids polyamine adduct cured zinc rich epoxy primer, designed for aggressive environments, suitable for offshore and onshore use.

**PPG SIGMAFAST® 278**
High solids zinc phosphate epoxy primer and buildcoat, offering excellent corrosion resistance in atmospheric exposure, curing at temperatures down to -5°C (23°F), and easy application by airless spray.

### Aesthetically pleasing finish solutions

**PPG SIGMADUR® 550 Series**
Aliphatic acrylic polyurethane finish
that offer excellent color and gloss retention with unlimited overcoating times.

**PPG PSX® 700**
20-year proven track record of corrosion and abrasion resistance, comparable to epoxy with superior color and gloss retention while outperforming most polyurethanes.

### Heavy-duty epoxy primer/buildcoat solutions

**PPG SIGMASHIELD® 880**
High-solids, polyamine adduct-cured epoxy coating, suitable for use in various rigorous corrosive environments.

**PPG SIGMASHIELD® 1200**
Solvent-free phenolic epoxy coating designed especially for areas that require superior abrasion and impact resistance.

### Chemical resistance

**PPG NOVAGUARD® 6850**
Designed for concrete and steel, this high-performance system delivers excellent chemical resistance for splash and spill areas.

**PPG NOVAGUARD® 4801**
Two-component, glass flake reinforced novolac vinyl ester to help protect new or old steel surfaces against chemicals at high temperatures.

**PPG SIGMAGUARD® CSF 585**
Solvent-free, two-component epoxy coating engineered for tank applications, like drinking water, that require safe, high-performance protection.

### High-temperature resistance and fire protection

**PPG SIGMATHERM® 230**
High-build epoxy phenol novolac coating, providing corrosion resistance for carbon and stainless steel under thermal insulation, suitable for temperatures up to 230°C (450°F) and cryogenic conditions down to -196°C (-321°F).

**PPG HI-TEMP™ 500**
One-component, heat-resistant silicone acrylic topcoat, offering superior color stability up to 426°C (800°F) for black and aluminum, rapid air drying, and excellent weathering and corrosion resistance when applied over approved primers.

**PPG HI-TEMP™ 1000**
Topcoat with highly engineered silicone resin; able to withstand severe thermal cycling to 540°C (1000°F) while providing excellent weathering and corrosion resistance.

**PPG SIGMATHERM® 540**
Moisure-curing silicone aluminum for internal and external protection of steel surfaces; provides dry heat resistance up to 600°C (1112°F).

**PPG HI-TEMP™ 1027**
Prevents Corrosion Under Insulation of carbon and stainless steel over an extreme temperature range from -185°C to 650°C (-300°F to 1,200°F), can be applied directly to hot substrates up to 316°C (600°F), and offers excellent UV stability and corrosion resistance for non-insulated surfaces.

### Durable novolac epoxy coatings

**PPG NOVAGUARD® 840**
Designed for heavy H2S wastewater environments, offering excellent chemical resistance, visibility, and suitability for unleaded gasoline storage, meeting EI 1541 2.2 and NSF/ANSI Standard 61 requirements.

**PPG NOVAGUARD® 890**
Offering excellent resistance to crude oil up to 120°C (250°F), suitable for storage of ethanol-blended gasolines and biodiesel, with good chemical resistance and easy application.

### Specialized flooring products

**PPG FLOORING 912 LV**
100% solids, low viscosity penetrating epoxy primer/sealer, ideal for flooring applications, bonds to dry or damp concrete, masonry, metal, and wood, reduces moisture vapor transmission.







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