CHEMFIT HYG-GARD 307W

Single Component Waterborne Acrylic/Polyurethane Dispersion Coating with Gloss Finish Containing Antimicrobial – For Surface Coating for Hygienic Areas Requiring Gloss Finish

PRODUCT DESCRIPTION

ChemFit HygGard 307W is a single component, waterborne modified acrylic/polyurethane dispersion based coating with a gloss finish containing a non-migrating integral film preservative. This advanced waterborne polyurethane coating is designed with specific hygiene functionality and is proven to provide antimicrobial protection for internal walls and ceilings. The antimicrobial additive is designed to remain permanently locked in the film and active throughout the coating‘s service life, ensuring no growth of surface micro-organisms, even where harsh cleaning regimes are followed.

The waterborne, low VOC formulation offers a hard, impact, scratch, and abrasion resistant finish that is easy to clean and non-yellowing, making it ideal for environments that require continuously sanitary conditions.

PRIMARY APPICATIONS

ChemFit HygGard 307W is recommended for use in conditions such as:

- Surface coating for internal walls and ceilings of environments requiring continuously sanitary conditions
- Pharmaceutical manufacturing, bio-tech facilities, and laboratories
- Food and beverage processing facilities, commercial kitchens, and breweries
- Hospitals, healthcare facilities, cleanrooms, and operating theaters
- Schools, daycare centers, and public buildings
- Wet areas, changing rooms, showers, and locker rooms

KEY FEATURES AND BENEFITS

- **Single component** – Ready to use; no on-site mixing required
- **Waterborne acrylic/polyurethane dispersion** – Low odor, low VOC, environmentally friendly
- **Contains non-migrating in-film preservative** – Antimicrobial additive remains permanently locked in the film, active for the coating‘s lifetime, ensuring no growth of surface micro-organisms and preventing bacteria, mold, fungi, and algae
- **Hard, durable finish** – Excellent impact, scratch, and abrasion resistance (113 mg weight loss, Taber Test)
- **Gloss, easy-clean finish** – ≥60 gloss units (60° angle), classified as “gloss” to BS EN 13300:2001
- **Non-yellowing** – Excellent color retention; 5,000 hours QUV shows no discoloration, chalking, or crazing

- **Fast drying** – Touch dry in 15-30 minutes; same day recoat possible
- **Good chemical resistance** – Resists 10% acids and alkalis, including nitric acid and caustic soda
- **Good adhesion** – Bonds to concrete (261-754 psi), steel (710 psi), brick (551 psi)
- **One-coat finish possible** – When applied by airless spray
- **24-month shelf life** – When stored under recommended conditions
- **Available in 5 L and 15 L containers**

PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Liquid
Color	White (custom colors available; 10-15 business days lead time)
Finish	Gloss (≥60 gloss units at 60°)
Basis	Waterborne acrylic/polyurethane copolymer dispersion
Type	Single component, ready to use
Density	10.43 lbs/gal (~1.26 kg/L)
Solids content (by weight)	49%
Solids content (by volume)	36%
VOC content	81.7 g/L (0.22 lb/gal)
Touch dry (at 20°C)	30 minutes
Through dry	45 minutes
Full cure	7 days
Application temperature	+10°C to +32°C
Substrate temperature	Must be ≥3°C above dew point
Relative humidity	Max. 80%
Opacity (contrast ratio)	> 99.5% (130 micron film) – Class 1
Shelf life	24 months

ANTIMICROBIAL PERFORMANCE

Property	**Result**
Test method	ISO 22196:2011 (JIS Z 2801 equivalent)
Target microorganisms	Staphylococcus aureus, Escherichia coli
Antibacterial activity	Proven effective (≥99.9% reduction)
Test conditions	24 hours at 35°C, ≥90% relative humidity

NOTE: The antimicrobial additive is a non-migrating, leach-resistant in-film preservative designed to remain permanently locked in and active for the lifetime of the coating, ensuring no growth of surface micro-organisms, including bacteria, mold, fungi, and algae.

MECHANICAL PROPERTIES

Property	Value
Abrasion resistance (Taber, CS10/1000g)	113 mg weight loss
Tensile strength	2326 psi (16 N/mm²)
Elongation at break (24 hours)	110%
Elongation at break (48 hours)	87%
Elongation at break (72 hours)	50%
Adhesion to coarse concrete	261 psi (1.8 N/mm²)
Adhesion to smooth concrete	754 psi (5.2 N/mm²)
Adhesion to brick	551 psi (3.8 N/mm²)
Adhesion to steel	710 psi (4.9 N/mm²)
Hardness (Persoz)	125
Scratch resistance (7 days cure)	Penetration at 3000 grams

PACKAGING AND STORAGE

Packaging:

- 5 L container
- 15 L container

Storage:

- Store in original sealed containers at +10°C to +32°C (50-90°F)
- Protect from direct sunlight, moisture, and freezing
- Store in dry conditions

Shelf life: 24 months from date of manufacture when stored properly in unopened containers

DOSAGE AND COVERAGE RATE

Application	Coverage (approx.)
Standard application	400 sq.ft./gal. (approx. 10 m²/L) at 4 mils WFT
Recommended system	2 coats for optimal performance

Yield per container:

- 5 L container: approx. 45-50 m² (2-coat system)
- 15 L container: approx. 135-150 m² (2-coat system)

NOTE: Coverage is approximate; varies with substrate porosity, surface profile, and application method. One-coat finish possible when applied by airless spray

APPLICATION GUIDLINES

Surface Preparation:

- Substrate must be sound, clean, dry, and free from dust, oil, grease, laitance, mold, mildew, curing compounds, and any contaminants
- Remove loose or deteriorated material mechanically or by high-pressure washing
- Fill static cracks with flexible latex/acrylic caulk
- For glossy surfaces, abrade to achieve profile

Priming:

- On porous, chalky, or highly absorbent substrates, apply compatible acrylic primer
- For previously coated surfaces, ensure good adhesion and compatibility

Mixing:

- Stir thoroughly before use
- Do not thin or dilute

Application:

- Apply by brush, short-nap roller, or airless spray
- For airless spray: one-coat finish possible
- For roll/brush application: apply two coats
- Allow minimum recoat time (see table below)
- Maintain wet edge to avoid lap marks

Curing Times:

Substrate Temperature	Touch Dry	Through Cure	Recoat (over same)	Recoat (over 203W)
+10°C (50°F)	45 min	1 hour	4 hours	24 hours
+20°C (68°F)	30 min	45 min	1 hour	4 hours
+30°C (86°F)	15-20 min	30-45 min	1 hour	4 hours

- Light foot traffic: 4-6 hours
- Full chemical resistance: 7 days
- Do not apply below +10°C (50°F) or if relative humidity exceeds 80%
- Do not apply if substrate temperature is below dew point (+3°C margin)

HEALTH AND SAFETY

Waterborne acrylic/polyurethane coating may cause mild eye and skin irritation. If eye contact occurs, rinse immediately with plenty of water for 15-20 minutes and seek medical attention if irritation persists. For skin contact, wash immediately with soap and water. If swallowed, do not induce vomiting; rinse mouth and drink water, then seek medical advice. Use gloves, safety glasses, and protective clothing during handling. Ensure adequate ventilation when using in confined spaces. Refer to the Safety Data Sheet for detailed information.

CLEAING OF TOOLS

Clean all brushes, rollers, and equipment with warm soapy water immediately after use before coating dries. Dried material requires mechanical removal.

LIMITATIONS

- For interior use only
- Do not apply on substrates with rising moisture or hydrostatic pressure
- Antimicrobial properties are surface-bound; effectiveness may be reduced if coating is abraded, damaged, or covered by dirt/film
- Regular cleaning is still required; antimicrobial coating is an adjunct to, not a replacement for, good hygiene practices
- Prolonged exposure to UV may cause slight loss of gloss
- Do not use in direct food contact applications; for food processing areas, apply to walls and ceilings (not food contact surfaces)

APPROVALS AND STANDARDS

ChemFit HygGard 307W complies with the following standards:

- **ISO 22196:2011 (JIS Z 2801:2000)** – Proven antibacterial activity against Staphylococcus aureus and Escherichia coli
- **ASTM D4060** – Abrasion resistance testing (113 mg weight loss)
- **BS EN ISO 527-3** – Tensile strength and elongation testing
- **BS EN 13300:2001** – Gloss classification (≥60 units – gloss)
- **ASTM G53-88 / G154-04** – Accelerated weathering (5,000 hours QUV – no discoloration, chalking, or crazing)
- **ASTM G21-15** – Fungal resistance testing
- **ASTM E2180-07** – Antimicrobial efficacy testing
- **ISO 9001** – Quality management system certified
- **Low VOC** – 81.7 g/L, meets environmental standards
- Single component, waterborne acrylic/polyurethane dispersion coating with gloss finish containing antimicrobial
- Suitable for surface coating for hygienic areas requiring gloss finish

LEGAL NOTES

All technical data provided in this Product Data Sheet is based on laboratory testing under controlled conditions. Actual field performance may vary due to differences in substrates, application methods, site conditions, and environmental factors. ChemFit makes no warranty of merchantability or fitness for a particular purpose. Users shall conduct their own trials to validate product suitability for the intended application. ChemFit reserves the right to modify product specifications without prior notice. For the most current documentation, request the latest Product Data Sheet and Safety Data Sheet from ChemFit.

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