

CHEMFIT HYG-GARD 317W

Single Component Waterborne Acrylic/Polyurethane Dispersion Coating with Silver Ion Antimicrobial – For Surface Coating for Hygienic Areas with Silver Ion Protection

PRODUCT DESCRIPTION

ChemFit HygGard 317W is a single component, waterborne acrylic/polyurethane dispersion based coating incorporating advanced silver ion antimicrobial technology. This ready-to-use formulation is specifically designed as a surface coating for hygienic areas requiring silver ion protection. Silver ions present within the coating attack bacteria in three different ways to cause the reproductive functions within the bacteria to break down, thus preventing bacterial growth.

The silver ion technology is based on a nanocomposite approach that produces strong binding between silver and the polymer backbone, resulting in an antimicrobial material that is not only sustainable and environmentally friendly, but also displays incredible longevity as the active ingredient is not depleted. This non-leaching, durable technology provides continuous antimicrobial protection throughout the service life of the coating and is effective against a broad spectrum of microorganisms including bacteria, viruses, and fungi.

The waterborne, low-VOC formulation offers excellent adhesion to a variety of substrates, good scrub resistance, and an attractive finish suitable for walls and ceilings in environments requiring high standards of cleanliness. It is ideal for use in healthcare facilities, pharmaceutical manufacturing, food processing areas, and other critical hygiene environments.

PRIMARY APPLICATIONS

ChemFit HygGard 317W is recommended for use in conditions such as:

- Surface coating for internal walls and ceilings in hygienic areas requiring silver ion antimicrobial protection
- Healthcare facilities, hospitals, clinics, and operating theaters
- Pharmaceutical manufacturing, bio-tech facilities, and laboratories
- Food and beverage processing facilities, commercial kitchens, and breweries
- Cleanrooms and controlled environments
- Schools, daycare centers, and public buildings
- Wet areas, changing rooms, showers, and locker rooms
- Animal research facilities and veterinary clinics

KEY FEATURES AND BENEFITS

- **Single component** – Ready to use; no on-site mixing required
- **Waterborne acrylic/polyurethane dispersion** – Low odor, low VOC, environmentally friendly
- **Silver ion antimicrobial technology** – Proven antimicrobial efficacy against a broad spectrum of microorganisms including Staphylococcus aureus, Escherichia coli, MRSA, Legionella, Salmonella, and Listeria
- **Non-leaching** – Silver ions are bound to the polymer backbone, ensuring the active ingredient does not leach out, rub off, or degrade over time
- **Long-term protection** – Antimicrobial efficacy remains effective for the lifetime of the coating
- **Durable finish** – Resists harsh cleaning regimes and maintains integrity
- **Good adhesion** – Bonds well to properly prepared concrete, plaster, brickwork, and previously coated surfaces
- **Mould and mildew resistant** – Prevents fungal growth
- **Low VOC** – Meets environmental standards for indoor air quality
- **Available in 5 L and 15 L containers** – Suitable for projects of all sizes

PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Liquid
Color	White (tintable to a wide range of colors)
Finish	Mid-sheen / Soft sheen
Basis	Waterborne acrylic/polyurethane copolymer dispersion
Type	Single component, ready to use
Antimicrobial agent	Silver ion based (non-leaching nanocomposite technology)
Density	~1.26 kg/L
Solids content (by weight)	~36 – 49%
Solids content (by volume)	~30 – 36%
VOC content	< 50 g/L (Low VOC)
Touch dry (at 20°C)	30 – 60 minutes
Recoat time (at 20°C)	2 – 4 hours
Full cure	7 days
Application temperature	+10°C to +32°C
Substrate temperature	Must be ≥3°C above dew point
Relative humidity	Max. 80%

ANTIMICROBIAL PERFORMANCE

Silver ion technology has been independently tested and has the ability to inhibit the growth of bacteria on surfaces by up to **99.9%** over a 24-hour period, in comparison to unprotected surfaces where they can proliferate at drastic rates.

Microorganism	Result
Staphylococcus aureus (MRSA)	≥ 99.9% reduction
Escherichia coli (E. coli)	≥ 99.9% reduction
Legionella	Effective inhibition
Salmonella	Effective inhibition
Listeria	Effective inhibition
Human coronavirus (229E)	99.86% reduction
Influenza A (H1N1)	98.61% reduction
Aspergillus niger (black mold)	No growth detected

Test standards:

- ISO 22196:2011 / JIS Z 2801 – Antibacterial activity measurement
- ASTM G21 – Antifungal activity testing
- AATCC 100-2019 – Antibacterial testing on textiles

PACKAGING AND STORAGE

Packaging:

- 5 L container
- 15 L container

Storage:

- Store in original sealed containers at +5°C to +30°C
- Protect from direct sunlight, moisture, and freezing
- Store in dry conditions

Shelf life: 12 months from date of manufacture when stored properly

DOSAGE AND COVERAGE RATE

Application	Coverage (approx.)
Standard application	10 – 12 m ² per litre per coat
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.

APPLICATION GUIDELINES

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
- Fill cracks and holes with suitable filler
- For glossy surfaces, abrade to achieve profile

Priming:

- For 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; if necessary, dilution should not exceed 5% water

Application:

- Apply by brush, short-nap roller, or airless spray
- For best results, apply two coats
- Allow minimum 2-4 hours between coats at 20°C
- Maintain wet edge to avoid lap marks

Curing:

- Protect from water, condensation, and mechanical damage for minimum 24 hours
- Full cure: 7 days
- Do not apply below +10°C 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.

CLEANG 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
- Regular cleaning is still required; antimicrobial coating is an adjunct to, not a replacement for, good hygiene practices
- 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 317W complies with the following standards:

- **ISO 22196:2011 / JIS Z 2801** – Antibacterial activity measurement against Staphylococcus aureus and Escherichia coli
- **ASTM G21** – Antifungal activity testing (resistance to fungal growth)
- **AATCC 100-2019** – Antibacterial testing on textile substrates
- **EN 1504-2** – Surface protection systems for concrete (where applicable)
- **ISO 9001** – Quality management system certified
- **Low VOC** – Meets environmental standards for indoor air quality
- **Non-leaching** – Proven silver ion retention; active ingredient does not leach out
- Single component, waterborne acrylic/polyurethane dispersion coating with silver ion antimicrobial
- Suitable for surface coating for hygienic areas with silver ion protection

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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