

## C/S Armoursheen™ System Technical Data Sheet

### SYSTEM DESCRIPTION

Armoursheen™ is a very durable, medium solids, solvent based, two pack, high build polyurethane surface coating system. It controls the growth and spread of microbes by incorporating a cocktail of non-leaching anti-microbial additives. The system will tolerate thermal movement without cracking, splitting or flaking and cures to form a Matt, Satin or Gloss finish, which are easily cleaned and resistant to aggressive cleaning agents and abrasives.

Armoursheen™ is suitable for interior and exterior use and is colour and UV stable. It acts as an anti-carbonation coating and the gloss version has a high light reflectance value. The system also has a high resistance to chlorine.

### MAIN AREAS OF USE

- Car Parks
- Pharmaceutical Environments
- Swimming Pool Hall Walls
- Marine Environments
- Water treatment plants
- Breweries
- Any structure that needs an anti-carbonation finish

### TEST DATA

#### FIRE RESISTANCE

BS 476 part 7 Class 1  
BS 476 part 6 Designated 0

#### SCRATCH RESISTANCE (BS 3900-E18:1997)

4H

#### SCRUB RESISTANCE (ASTM D2486)

4000+ cycles

#### ABRASION RESISTANCE (ASTM D1044, D3389)

5000 cycles

#### PERMEABILITY

Permeability factor  $\mu$  to water vapour 35,000  
Permeability factor  $\mu$  to carbon dioxide 2,750,000

#### CHEMICAL RESISTANCE (IMMERSION TEST)

| Chemical                         | First change after | Type of change                           | No further protection after |
|----------------------------------|--------------------|--|-----------------------------|
| Hydrochloric Acid (10% in water) | 4 months           | Blistering & gloss reduction             | >24 months                  |
| Nitric Acid (10% in water)       | 5 months           | Blistering & brown discolouration        | 13 months                   |
| Sulphuric Acid (10% in water)    | 12 months          | Blistering                               | 36 months                   |
| Caustic Soda (10% in water)      | >24 months         | Very slight blistering & gloss reduction | >48 months                  |
| Formic Acid (10% in water)       | <1 month           | Blistering                               | 2 months                    |
| Formaldehyde (40% in water)      | >24 months         | Slight softening                         | >48 months                  |
| Distilled/Tap Water              | 12 months          | Small blisters                           | >48 months                  |
| Benzyl Alcohol                   | 5 days             | Softening                                | 24 months                   |

#### BACTERIAL RESISTANCE (JIS Z 2801)

- Bacillus subtilis
- Escherichia coli
- Pseudomonas aeruginosa
- Salmonella typhimurium
- Staphylococcus aureus (Oxford and Anti-biotic Resistant strain)
- Enterococcus faecalis
- Corynebacterium diphtheriae
- Shigella sonnei

#### FUNGAL RESISTANCE (JIS Z 2801)

- Saccharomyces sp (a)
- Saccharomyces sp (b)
- Ascomycetes sp (a)
- Ascomycetes sp (b)
- Ascomycetes sp (c)
- Ascomycetes sp (d)
- Penicillium chrysogenum
- Trichoderma harziamen
- Saccharomyces cerevisiae
- Penicillium notatum
- Aspergillus niger

#### ADHESION STRENGTH (BS EN 24624:1993)

1.5Nmm<sup>-2</sup>

#### APPROXIMATE SOLIDS CONTENT (BS 3900)

63.6 % by volume  
72.8 % by weight

#### SPECIFIC GRAVITY

(BS 3900-A19:1998; ISO 2811; ASTM D1475)  
1.28

#### GLOSS UNITS (ASTM D523)

Matt 10-20 at 60° viewing angle  
Satin 50-80 at 60° viewing angle  
Gloss 85+ at 60° viewing angle

#### VOC LEVEL OF THE TOPCOAT

<260 g/ltr

## COLOURS AND FINISHES

### COLOURS

The system can be supplied in any BS 4800, RAL Classic and NCS 2nd Series as standard. Colours can also be matched to a customer's requirement but will take an extended time over standard colours (please contact our Customer Service Team for details).

### AVAILABLE FINISHES

Armoursheen™ is available in a Matt, Satin or Gloss finish.

## SUBSTRATE PREPARATION AND APPLICATION OF PRIMERS

### SUBSTRATE MOISTURE & APPLICATION CONDITIONS

Substrate moisture should not exceed **12 units** as measured on a Protimeter or equivalent device, on the wood scale (**20 units** when **C/S Multi Surface Primer™** is used).

**Do not apply** when the substrate temperature is **below 5°C**. Coating conditions must remain **at least 3°C** above the dew point.

### APPLICATION OF PRIMERS

All substrates that exhibit signs of bacteria or fungal growth prior to application must be treated with **C/S Fungiclense™**.

#### Plaster, Plasterboard, Cementitious Screeds and Non-Vibrated Concrete (excluding wet areas)

Ensure substrate is free from oil, grease and laitance. Apply one coat of **C/S White Primer™** (Single Pack) using a good quality long pile synthetic roller sleeve, cutting in with a good quality brush.

In the areas where there may be raised fibres due to filling etc. back roll to seal fibres down. In areas of high absorption/friable surfaces a second coat may be required.

Allow to dry (2-4 hours @ 20°C @ 60% RH) before applying the **C/S Universal Undercoat™**.

Note: **C/S Penetration Primer™** is recommended for use on Plaster/Plasterboard when **Armoursheen™** with Fibreglass Reinforcement is applied. For further details refer to 'Application Instructions - **C/S Armoursheen™** inc. FG Light/Heavy'.

#### Ceramic Tiles, Melamine Surfaces, Vibro-Concrete & Wet Areas

Clean down surface using **C/S Wallclenze™**, paying particular attention to joints (grout or mastic).

Apply one coat of **C/S Multi Surface Primer™** (Two Pack Water Based) using a good quality medium or short pile mohair roller. Allow to cure (4-6 hours @ 20°C @ 60% RH) before applying the **Armoursheen™ Topcoats**.

#### Plastics

Always check compatibility prior to commencing coating.

Clean plastic surface down using **C/S Gel Cleaner™**.

Apply one coat of **C/S Plastic Primer™** (Single Pack) using a short pile mohair or sponge roller. Allow to dry (2-4 hours @ 20°C @ 60% RH) before applying **Armoursheen™ Topcoats**.

#### Previously decorated surfaces

Clean down surface using **C/S Wallclenze™**, removing any loose or flaky coating.

Fill any areas where necessary and spot prime using **C/S Multi Surface Primer™** (see above) and continue with **Armoursheen™ Topcoats**.

## SYSTEM APPLICATION

### C/S UNIVERSAL UNDERCOAT™

Required **ONLY** for application of the system over **C/S White Primer**. When using other primers proceed with application of **Topcoats**.

**Universal Undercoat™** (Single Pack) is applied onto the specified primer using Brush and Roller (long pile roller). Allow to dry (4-6 hours @ 20°C @ 60% RH) before applying the **Armoursheen™ Topcoats**.

### C/S ARMOURSHEEN™ TOPCOAT SYSTEM

**Armoursheen™ Topcoat System** (Two Pack) is applied in two coats (two matt coats to achieve matt finish, one matt and one satin coat for satin finish, or one matt and one gloss coat for gloss finish). Apply using Brush and Roller (short pile roller or sponge). Allow 4-6 hours @ 20°C @ 60% RH between coats. Allow 48 hours after final coat before putting into service.

If spray application is required please contact our Technical Department.

ALWAYS SAND LIGHTLY BETWEEN COATS.

Note: Application instructions will be issued with the product. To request a copy please call +44 (0)1296 652800, or send an e-mail to [info@c-sgroup.co.uk](mailto:info@c-sgroup.co.uk). Copies can also be downloaded directly from our website [www.c-sgroup.co.uk](http://www.c-sgroup.co.uk).

## COVERAGE AND PACK SIZES

| Product                     | Coverage Rates (per coat) <sup>1</sup> | Pack Sizes (ltr)                 | Recommended Build Thickness (per coat) |              |
|-----------------------------|--|----------------------------------|--|--------------|
|                             |  |                                  | Wet Film                               | Dry Film     |
| White Primer                | 7-9 m <sup>2</sup> /ltr                | 5 and 20 (Single Pack)           | 120μ to 140μ                           | 30μ to 40μ   |
| Multi Surface Primer        | 6-14 m <sup>2</sup> /ltr               | 2.5 and 5 (Two Pack Water Based) | 120μ to 140μ                           | 70μ to 80μ   |
| Plastic Primer              | 12-15 m <sup>2</sup> /ltr              | 2.5 and 5 (Single Pack)          | 60μ to 80μ                             | 20μ to 30μ   |
| Universal Undercoat         | 9-11 m <sup>2</sup> /ltr               | 5 and 15 (Single Pack)           | 140μ to 160μ                           | 70μ to 90μ   |
| Armoursheen Topcoat - Matt  | 5-7 m <sup>2</sup> /ltr                | 2.5 and 5 (Two Pack)             | 160μ to 180μ                           | 100μ to 110μ |
| Armoursheen Topcoat - Satin | 6-8 m <sup>2</sup> /ltr                | 2.5 and 5 (Two Pack)             | 160μ to 180μ                           | 100μ to 110μ |
| Armoursheen Topcoat - Gloss | 6-8 m <sup>2</sup> /ltr                | 2.5 and 5 (Two Pack)             | 160μ to 180μ                           | 100μ to 110μ |

<sup>1</sup> Coverage rate will vary for different substrate types and will also depend on whether the surface to be coated is smooth or textured. For further details contact us on +44 (0)1296 652800.

## SHELF LIFE AND STORAGE

### STORAGE

Always store out of sunlight at temperatures between 5°C and 35°C

### SHELF LIFE

2 years from manufacture when stored correctly and unopened.

## OPERATIONAL TEMPERATURE

Armoursheen™ once applied and cured is stable in temperatures between -15°C and 90°C.

## HEALTH AND SAFETY

Always read the Material Safety Data Sheets of the products before commencing any application.

Copies of Material Safety Data Sheets are available on request from our Customer Service Team on +44 (0)1296 652800.

## OTHER INFORMATION

### OTHER SUPPORTING INFORMATION AVAILABLE

- C/S Wallglaze® Brochure
- NBS Style Specification Clauses
- BS 4800 Colour Chart
- C/S Wallglaze® Cleaning and Maintenance
- C/S Armoursheen™ Application Instructions
- Product Data Sheets for Primers, Universal Undercoat, Armoursheen™ Topcoat Bases and Hardener 602

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