

Overview of BAL29 Coating System

The Chemron BAL29 Coating System is a fire-retardant system that, when used in conjunction with the manufacturer's guidelines, provides a level of fire resistance that is compliant to a BAL29 Standard.

As the Chemron BAL29 Coating System contains a penetrative fire retardant it is superior to fireproof paint alone. Unless meticulously maintained, fireproof paint can be damaged, weather and flake off only to leave the underlying timber exposed and susceptible to flame and ember attack.

Testing Information

This system has been independently tested in accordance with AS/NZS 3837 for determination of AS 3959-2018 assessed performance.

Prior to testing, all timber specimens were subjected to the ASTM D2898 Method B accelerated weathering regime with flow rates modified to be the same as that within ASTM D2898 Method A in accordance with AS/NZS 3837. For more information, please see the certificate below.

FH16194-01-2-C1 GROUP NUMBER CLASSIFICATION



The specimens described below were tested by BRANZ in accordance with AS/NZS 3837 for determination of AS 3959-2018 assessed performance.

Test Sponsor

Chemron Australia Pty Ltd
154 Shellharbour Road
Port Kembla
NSW 2505
Australia

Date of tests

25th June, 7th July and 11th August 2020

Reference BRANZ Test Report

FH16194-01-2 – issued 4/10/2023

Test specimens as described by the client

Chemron BAL29 Coating System, comprising of a Natural/Raw Pine timber with 2 applied coats of Chemron Liquid Fire Retardant, and 3 further coats of Sikksens Cetol, with 80 ml of Chemron Ember Armour Paint Additive added to each 1000 ml of Sikksens Cetol before the coatings.

Specimen ID	Mean values	
	Mass (g)	Thickness (mm)
FH12484-G-50-1,2,3,4,5,6	179.4	41.0

Testing in accordance with AS 3959-2018

The specimens were subjected to the ASTM D2898 Method B accelerated weathering regime with water flow rate modified to be the same as that within ASTM D2898 Method A prior to testing in accordance with AS/NZS 3837. The test results to withstand exposure up to BAL-29 conditions were as follows:

Specimen: Chemron BAL29 Coating System			
Irradiance (kW/m ²)	AS 3959 Criteria	Test result summary	Performance assessment
25	Maximum HRR ≤ 100 kW/m ²	47.7	Pass
	Average HRR for 10 mins. following ignition ≤ 60 kW/m ²	4.2	Pass

Issued by

J. J. Ham
Fire Team Logistics Coordinator
BRANZ

Reviewed and authorised by

L. F. Hersche
Fire Testing Engineer
BRANZ

Regulatory authorities are advised to examine test reports before approving any product.



All tests and procedures reported herein, unless indicated, have been performed in accordance with the laboratory's scope of accreditation

Issue Date

4 October 2023

Application Guidelines

The Chemron BAL29 Coating System comprises of the following products:

1. Chemron Fire Retardant Liquid (FRL)
2. Chemron Ember Armour Paint Additive
3. Sikkens Cetol BLX-Pro Water Based Exterior Timber Finish

For the Chemron BAL29 Coating System to achieve certification the coating system requires:

1. Two coats of Chemron Fire Retardant Liquid
2. Three coats of Sikkens Cetol BLX-Pro with 100ml/L of Chemron Ember Armour Paint Additive.

The products must be applied using the process outlined below. Failure to do so may result in a reduction in performance and loss of certification.

Application Steps:

1. Clean the timber prior to application to remove any loose soiling, dirt, or grime. On aged or oxidised timber, Timber Reviver Cleaner may be used to help increase the penetration of the Fire-Retardant Liquid ensuring maximum protection.
2. Lightly sand the timber surface as you would before applying a paint or primer.
3. Mix the Fire-Retardant Liquid thoroughly.
4. Using a brush, or preferably a low-pressure sprayer, apply the first of two coats of Fire-Retardant Liquid.
5. Apply the second coat of the Fire-Retardant Liquid while the 1st is still wet. This ensure that full penetration into the timber has occurred.
6. Wipe excess product off with a lint-free cloth.
7. Allow a minimum of 10 hours to dry. In cooler conditions drying may take longer.
8. Prepare Sikkens Cetol BLX-Pro and Ember Armour Paint Additive using the following:
 - a. Thoroughly stir to ensure even consistency.
 - b. Add 100ml of Ember Armour Paint Additive for every 1L of Sikkens Cetol BLX-PRO
 - c. Continue to thoroughly stir until both products are mixed evenly.
9. Apply the first of three coats of Sikkens Cetol BLX-Pro/Ember Armour mixture. Allow to dry for two hours.
10. Apply the second of three coats of the Sikkens Cetol BLX-Pro/Ember Armour mixture. Allow to dry for a further two hours.
11. Apply the final coat of Sikkens Cetol BLX-Pro/Ember Armour mixture.

Allow coated surface to dry fully. This can take up to 24 hours depending on weather conditions.

Limitations

Presently the Chemron BAL29 Coating System is compliant on Radiata Pine timber species. The system may be applied either indoors or outdoors, on façade timbers or structural beams.

The timber must be in its raw state with no stains, varnish, paints or oils to have been applied prior to the application of the coating system.

Testing and certification is currently in process on several additional species of timber including but not limited to:

- Western Red Cedar
- Tasmanian Oak
- Spotted Gum
- Cypress Pine
- H4 Treated Pine

Maintenance and Reapplication

As the Chemron BAL29 Coating System is a 2 coat system there is some maintenance required to maintain the treated timber. The maintenance and reapplication of the products are detailed below:

1. Chemron Fire Retardant Liquid – As the base product for the system is a penetrative product and soaks into the pores of the timber, there is no need to reapply the base coat if the top coat is maintained appropriately as per manufactures instructions.
2. Sikken's Cetol BLX-Pro + Ember Armour Paint Additive – It is recommended that the coated timber be inspected yearly for signs of weathering. Maintenance should be carried out while the coating is still intact, has a uniform look and is able to easily repel water.

For Timely Maintenance:

1. Wash the area to be recoated with liquid sugar soap and a soft house or car cleaning brush, creating a good lather. Ensure no area is missed, then rinse off with fresh water.
2. Repeat the washing process with liquid sugar soap and rinse thoroughly with fresh water.
3. For areas heavily polluted, stronger degreasing products may be necessary.
4. Depending on the area to be recoated, consider using 240-320 grit sandpaper for a light cut back to ensure a smooth finish on dressed timber.

5. When using sandpaper for cutting back, use wet and dry sandpaper with water as the lubricant. This speeds up preparation, and you can wash away sanding dust once cutting back is finished.
6. Allow 48 hours for drying.
7. Before each use, thoroughly stir the product with a flat-ended stirrer for 5 minutes, ensuring the bottom of the tin is well scraped.
8. Apply 2 coats of Cetol BLX-Pro.
9. Ensure the timber to be coated has a moisture content of 16% or lower.
10. Ensure the timber surface is cool to the touch and avoid applying in direct sunlight.
11. Recommended coating by section (along the length of each piece) rather than across various sections simultaneously.
12. Overcoat the first coat of Cetol BLX-Pro within 14 days.
13. Make sure each coat is completely dry before applying additional coats.
14. Do not mask coatings until full cure (approximately 7-14 days, depending on drying conditions).
15. Follow the requirements of the masking tape manufacturer, removing masking tape as soon as possible within their specified time limit.
16. Use a longhaired natural bristle brush and maintain a wet edge.
17. After initial application, remove excess stain from stain-type products with an unloaded brush.
18. Keep the coating away from rain, dew, condensation, and moisture until it's dry. Good air circulation will aid in drying.
19. Dispose of all materials safely, avoiding disposal down stormwater systems. Consult your local council for proper disposal methods.
20. When undertaking any work, follow good trade, health, and safety practices.

Sikkens Cetol BLX-Pro TDS

CETOL BLX-PRO

TECH SHEET



DESCRIPTION

Quick drying water based exterior timber finish for hard and soft woods.

GENERAL NOTES

Main Characteristics	<ul style="list-style-type: none"> • Low film-build: natural aspect of wood. • Easy to apply: very good flow. • Long open time, extremely fast drying. • Good outdoor durability. • Good penetration of first coat into the wood. • Good adhesion on bare wood; also in humid conditions. • Permanent flexibility. • Stabilization of wood against climatic changes. • Micro porous. • Non – dripping. • Highly translucent, enhances the natural texture of wood.
Uses	<ul style="list-style-type: none"> • As an all-in-one system or as a primer in water-borne translucent systems for all kinds of exterior timber surfaces. • Very suitable for constructions with large timber surfaces such as claddings, balcony railings, garden fences etc.

APPLICATION DATA

Temperature of Application	Temperature between: 8 – 30oC. Relative humidity: Max. 85%.
Method	Brush. Ready for use after thorough stirring Viscosity: Can be applied without thinning.
Thinning	Water. Ready for use.
Cleaning of Equipment	Clean brushes and equipment immediately with lukewarm water. Add household detergent when necessary. Do not use hot water.
Coverage Rate	Smooth wood: approx. 18m ² per litre. The coverage rate depends greatly upon the timber species and the texture of the surface, the method of application and conditions during application.
Film Thickness	Wet 50 - 60 microns: Dry 13 - 16 microns, per coat. A three coat Cetol BLX-Pro system should have a minimum dry film thickness of 20-25 microns.
Drying time at 20°C/65% relative humidity	Dust dry: after approx. 20 minutes Tack free: after approx. 2 hours Recoatable: after approx. 2 hours
Volatile Organic Compound	Approx.: 56g/L

PACKAGING VISCOSITY (Approx. 34 s ISO Cup 4/20°)	
Density	Approx. 1.041 kg/dm ³
Solids Content	Approx. 28% by weight = Approx. 25% by volume.
Gloss Level	Low Satin, approx. $\geq 30 \text{ GU} \pm 5 \text{ GU}/600$ (ASTM D523) (on black PVC)
Exterior Durability	Durability depends greatly on quality of substrate, the quality of the construction and glass setting as well as the quality of the indoor paintwork.
Minimum Shelf Life	24 months if stored in unopened packaging. Keep in a cool frost-free place.
Storage Conditions	Stored in dry warehouse at temperatures between 5 – 30°C.

AVAILABILITY	
Packaging	1, 2.5 and 5 litre cans, plus 006, 077 and 085 also in 10 and 20L sizes.
Colour Range	<p>006 Light Oak 009 Dark Oak 010 Walnut 077 Pine 085 Teak</p> <p>The resulting colour effect depends up the layer thickness and on the species on which Cetol BLX-Pro is being applied.</p>

SYSTEMS	
Timber Moisture Content	Moisture content of timber to be coated should not exceed 15%
Timber Quality	Structural timber elements should be manufactured to the highest national quality standards for design and construction of joinery and house-front in-fillings.
<u>NEW WOODWORK</u>	<p>New Woodwork: Apply a three coat system using Cetol BLX-Pro. For best results, keep the interval between applications of the coats as short as possible. This period should not exceed 1 month.</p> <p>Maintenance: Should take place every 1-2 years, depending on the condition of the finish and applied system.</p>
<u>PREVIOUSLY STAINED WOOD SURFACES:</u>	<p>Clean, degrease intact coatings with detergent solution / water and sand lightly, (do not sand the film from the edges): after thorough drying apply one or two coats of Cetol BLX-Pro.</p> <p>Transparency: In order to maintain the translucent appearance of a Cetol BLX-Pro, especially over a longer period, it is recommended to use light colours, 077 or 006, for maintenance applications.</p>

POINTS TO NOTE

1) New or un-seasoned hardwoods such as Merbau (Kwilla), Tallowood, Spotted Gum, Jarrah and Ironbark all contain natural tannins. These tannins need to be extracted prior to coating. This can be done naturally by leaving the timber to weather in the elements for a minimum period of six months. As an alternative, this weathering process can be accelerated by applying Sikkens Cetol BL Tannin & Oil Remover to the timber substrate – allow to sit on the timber surface for 15 minutes before thoroughly rinsing with a pressure washer or hose. Whilst timber remains wet, apply a liberal coat of Sikkens Cetol BL Deck & Wood Cleaner and scrub into the surface: leave for 15 minutes then thoroughly rinse with pressure washer or hose. Allow to completely dry prior to applying Cetol BLX-Pro.

NB: When using Sikkens Cetol BL Tannin and Oil Remover and / or Sikkens BL Deck and Wood Cleaner ensure the products do not dry: if necessary lightly spray fresh water mist to ensure these products remain active during the period that they have been applied onto the timber surface.

2) Covering of horizontal surfaces. During construction it is recommended to cover horizontal surfaces with plastic or aluminium foil to prevent their discolouration from mortar, cement or other building materials.

The effectiveness of our systems is based on many years of practical experience and laboratory research. Nevertheless, we cannot accept, without prior investigation, any liability for the work produced according to these systems as the ultimate result depends on factors beyond our control.