

ALLRITE RECOVER ROOF SYSTEM

SEPTEMBER
2020



50+ YEARS OF PROVEN PERFORMANCE IN THE FIELD.

Allco Waterproofing Solutions Ltd specialises in waterproofing systems and seismic joint products, on-site and design support. We have handpicked the best solutions from around the globe so that we can offer first quality waterproofing and seismic solutions along with independent advice based on sound technical knowledge and practical experience.

Allco has proudly assembled a refined group of affiliated suppliers including CETCO VOLCLAY, Casali, Hydrotech, Johns Manville and WABO and associated system component suppliers. This enables us to be able to offer the perfect solution to address almost any waterproofing challenge rather than make compromises due to a lack of suitable product alternatives or systems that are not deemed to be fit for purpose.

As a result, we can offer a simplified single source system:

ONE SUPPLIER | ONE APPLICATOR | ONE WARRANTY





CONTENTS

Benefits to users	07
Compliance with the NZBC	07
Scope of use	08
Assembly components	09
Method	10
Beware of substitution	11
Use only current specifications	11
Design considerations	11
Installation	11
Care and maintenance	12
Liability	12
Product Components	13
1. Allco Roof-tac	14
2. Allco PIR	18
3. Allco Securock roof board	19
4a. Allco JM TPO single ply membrane system	23
4b. Allco Casali 2 layer torch on membrane system	25
Health and safety	27
MSDS information	27

ABOUT

Allco ALLRITE Recover Roof System enables an existing metal tray roof assembly to be retained and reused as the structural deck platform for the re-roof system. ALLRITE Recover Roof solutions are designed and engineered to provide long term durability/weathertightness and improved thermal and acoustic performance. We offer Allco JM TPO membrane or our Allco Casali Dermabit Extra APAO RMBM (torch on) as the finished surface over the recover system components. We aim to simplify the re-roofing process with a fully warranted system solution.

ALLRITE Recover Roof Systems can be installed over existing metal trough section roofing. This roofing material was traditionally installed at low pitch. Low pitch, damage, poor detailing, complex junctions all contribute to these roofs being compromised in respect to weather-tightness. Often these roofs are the perfect candidate for ALLRITE Recover Roof Systems. Our team will examine the existing roof and provide a re-roof solution that allows for our robust, cost efficient and warrantable ALLRITE Recover Roof system to be installed.

COMPLIANCE WITH THE NZBC

1. NZBC CLAUSE B2 – DURABILITY

Performance B2.3.1.

2. NZBC CLAUSE E2 – EXTERNAL MOISTURE

Performance E2.3.1, E2.3.2, E2.3.6.

3. NZBC CLAUSE F2 – HAZARDOUS BUILDING MATERIALS

Performance F2.3.1.

BENEFITS

Keep your existing roof substrate

Use the existing roof substrate as the platform for the ALLRITE Recover Roof system. Allco will assess the existing roof substrate's acceptability prior to providing the correct solution for you.

Continuity and minimal disruption

ALLRITE Recover Roof Systems will not require the building occupants to be relocated during the installation because the work can be done whilst the existing roof remains intact meaning there is minimal disruption to normal business operations.

Condensation considerations

ALLRITE Recover Roof Systems are designed and installed to ensure that the condensation risk over the life cycle of the system is effectively managed by the approved design.

Low slope/re-pitch options

If your existing roof has insufficient fall, we can provide ALLRITE Recover Roof System options that can be re-pitched to suit your potential requirements. The simplest and most cost-efficient way to achieve this is with tapered rigid insulation for which we incorporate into the design as part of the new re-roof substrate solution.

Engineered solution

Allco will conduct a thorough roof assessment to ensure the correct ALLRITE Recover Roof solution is specified and will meet all the structural performance requirements of the project.

BRANZ Appraisal

Allco Waterproofing Solutions offer Allco JM wide sheet TPO single ply membrane systems or our Allco Casali two-layer torch on membrane system as the finished surface on top of the ALLRITE Recover Roof System. Both are BRANZ appraised membrane systems and will provide a watertight and aesthetically pleasing surface for your new roof.

Thermal performance

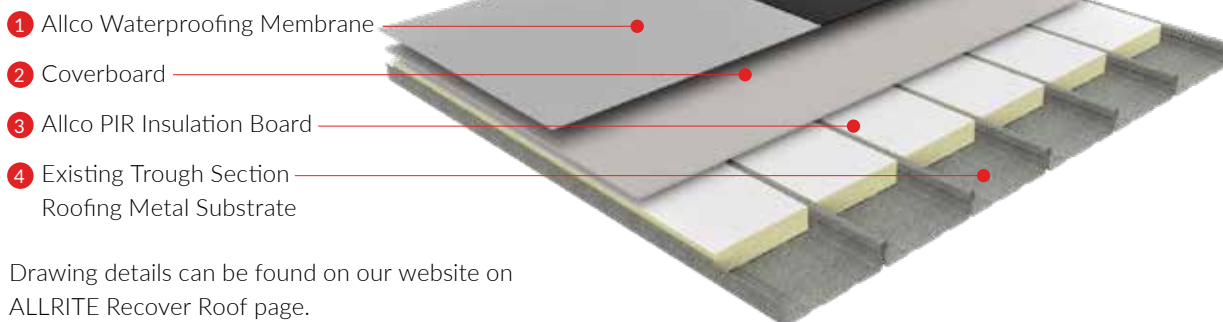
Allco ALLRITE Recover Roof System can incorporate additional PIR insulation layers that will enhance the thermal performance requirements of the building.

Warranty

Allco provides a 20 year product warranty against material defects for the ALLRITE Recover Roof system. The warranty must be applied for upon completion of the project by the Allco Approved Applicator. Workmanship will be covered separately by the Allco Approved Applicator.

ASSEMBLY COMPONENTS

1. **Allco Waterproofing Membrane** (JM TPO and Casali RMBM (torch on) Membrane)
2. **Coverboard** (6.3mm USG Securock®)
3. **Allco PIR insulation Board** Inlay to Existing Trough Sections
4. **Existing Trough Section Roofing Metal Substrate**



Drawing details can be found on our website on ALLRITE Recover Roof page.

Code	Description	Weight	Notes
ALLRITE RECOVER ROOF SYSTEM			
JMGGRAC	Roof-Tac contact adhesive	0.70 kg per Litre (double sided)	17kg bottle (130sqm coverage) when adhesive is applied to both surfaces
CPIR40F*	pre-cut PIR board 40mm x 180mm	2.00kg per sqm	*PIR fingers are available in 20, 30, 40, 50mm thicknesses (2400mm lengths)
JMGGRAC	Roof-Tac Contact adhesive	0.70kg per Litre (double sided)	17kg bottle (130sqm coverage) when adhesive is applied to both surfaces
USGCR6	Securock 6.3mm roof board	6.24kg per sqm	
		TOTAL 11.04KG PER SQM	

ALLCO JM TPO MEMBRANE SYSTEM			
JMGGRAC	Roof-Tac contact adhesive	0.70kg per litre	
JMMEMG	1.5mm TPO membrane	1.68kg per sqm	
		TOTAL 3.08KG PER SQM	

ALLCO CASALI RMBM SYSTEM			
CSPRIME	solvent based primer	0.90kg per litre	
CASARD	2.5mm aderix SA base sheet	2.00kg per sqm	
CBITC10	4.0mm Casali cap sheet	5.20kg per sqm	
		TOTAL 8.1KG PER SQM	

METHOD

Contact Allco to arrange for an Allco representative to visit the site and to assess the suitability of the existing roof for an ALLRITE Recover Roof solution.

Once the existing roof has been assessed as suitable for ALLRITE Recover Roof System, Allco will provide the final details and/or any remedial requirements that may be needed for the existing roof prior to the installation of ALLRITE Recover Roof system.

INSTALLATION STEPS

1. Clean the existing roof and make good any damage to the existing roof material and repair any loose sheets etc.
2. Install PIR profile fingers to all the metal troughs of the existing metal tray roof.
3. Install Allco 6.3mm Securock board over the existing metal roof and PIR fingers. This can be achieved via a fully adhered method or a mechanically fixed method.
4. Install either Allco JM TPO single ply membrane or Allco Casali two layer torch on membrane.

This completes the basic ALLRITE Recover Roof System and provides the most cost-efficient method of achieving this.

5. Add a layer of Allco JM Vapour Barrier membrane and PIR insulation to further increase thermal performance requirements and a layer of 6.3mm Securock for even higher impact resistance values. This will then be a true Warm Roof System

6. To increase the roof fall, include tapered PIR sheets to achieve desired roof falls.

7. The ALLRITE Recover Roof components can then have either Allco JM TPO wide sheet membrane or Allco Casali which is a two-layer modified bitumen membrane installed by an approved Allco membrane installer.

BEWARE OF SUBSTITUTION

ALLRITE Recover Roof System has been specifically designed to meet the highest criteria of building elements and design principals. Our Allco TA program will ensure that all the above criteria are met during the installation of ALLRITE Recover Roof. Protect yourself and the building project by registering with Allco at the design stage to receive these benefits.

USE ONLY THE CURRENT SPECIFICATION

Allco specification documents are available through Masterspec or can be downloaded from our website (www.allco.co.nz). Substitution of any products in NZBC compliant systems should not be accepted and we recommend this be made clear in all specification and tender documents.

DESIGN CONSIDERATIONS

ALLRITE Recover Roof options can be installed to several potential different existing roof types. We can provide practical, innovative and cost-effective solutions for the overlay of an existing roof substrate. ALLRITE Recover Roof solutions can be used to overlay existing metal roofs and existing concrete and plywood roof substrates. The available solutions are varied and can be adapted to the specific challenges and requirements of your re-roofing project. Talk to Allco first so we can assist you with the correct selection tailored to suit your buildings needs and requirements.

INSTALLATION

Installation shall be carried out by an Allco Approved Applicator.

Installation shall be undertaken in accordance with all relevant technical information related to the selected installation method, including information contained within the Casali BRANZ Appraisal No. 647 (2019) and JM TPO BRANZ Appraisal No. 1046 (2018) and the suppliers installation instructions.

CARE AND MAINTENANCE

Maintenance requirements for Allco JM TPO membrane and Allco Casali are outlined in Allco's Care and Maintenance Guide.

In the event of membrane damage repairs must be carried out by an Allco Approved Applicator only. The Allco Approved Applicator will assess the damaged area and provide the necessary repair in accordance with suppliers guideline.

LIABILITY

The quality of the supply of products to the New Zealand market is the responsibility of Allco Waterproofing Solutions Ltd and its associated component supply partners.

Quality on site is the responsibility of the Allco Waterproofing Solutions Ltd trained and approved installers.

Designers are responsible for the building design, and building contractors are responsible for the quality of construction of substrate systems in accordance with the instructions of Allco Waterproofing Solutions Ltd.

Building owners are responsible for the maintenance of the membrane systems in accordance with the instructions of Allco Waterproofing Solutions Ltd.





PRODUCT COMPONENTS

1. ALLCO ROOF-TAC ADHESIVE



CANTAC ROOF-TAC is a natural rubber based, plasticiser resistant contact adhesive formulated for bonding. TPO roofing membranes to substrates.

ROOF-TAC features very fast flash-off, with extra-long open time. High heat stability (128°) and superior long-term bond strength.

ROOF-TAC is an excellent choice for permanent bonding of TPO, and most other roofing membranes to a variety of substrates and is also suitable for a wide variety of applications involving laminating of plastic materials.

USES

For bonding elements of the Recover & Warm Roof system and for fully adhering Allco JM TPO and Allco JM TPO FB membranes to approved substrates.

FEATURES

- Plasticiser Resistant
- Extra Long
- Open Time
- Very Low Odour
- High Heat Resistant
- High Strength
- Waterproof
- No Ozone Depleting Substances
- High Coverage
- High Solids

THE CANISTER ADVANTAGE

- CANTAC's self contained, environmentally friendly, portable canister system was designed for ease of use.
- The canister, equipped with a reusable gun and hose, eliminates the need for air assisted adhesive application systems.
- No power or compressor is required!
- This approach significantly reduces set up and clean-up time. The canister system is almost maintenance free. No solvent is needed to flush out guns and messy pressure pots.
- The spray pattern is consistent, delivering perfect results every time which eliminates human error caused by inconsistent spray patterns. Its portability enables you to apply adhesive in your facility or on site.
- Once you have emptied the eco friendly canister, simply attach your gun and hose to a new one. The empty canister is made from recyclable steel and can be easily recycled making it more environmentally friendly than traditional plastic containers.

PHYSICAL & CHEMICAL PROPERTIES

Chemical Description	Solvent Based Contact Adhesive
Odour	Minimal Solvent Odour
Appearance	Blue
Solids Content	38 - 42%
Viscosity	Sprayable Grade
Coverage	17kg Canister: 272m2 Single Sided

(Guide only: Coverage depends on absorbency of substrate and coating weight. Generally the heavier the coating weight the stronger the bond.)

Minimum Open Time	1 - 2 minutes
Maximum Open Time	24 hours
Heat Resistance	-40- + 120°C
Cleaner	Citrus Cleaner or Acetone
Flash Point	Non applicable
Specific Density	0.70kg per ltr +/- 5%
Size	17kg Recyclable Canister

DIRECTIONS FOR USE

1. For best results all surfaces to be bonded must be clean ' dry and free from dirt, dust, oil, loose paint, wax and grease. The temperature of the adhesive and the surfaces being bonded should ideally be between 15°C - 27°C.
2. Attach the larger end of the hose to the spray gun and tighten securely, attach the smaller end of the hose to the canister valve securely.
3. Slowly open the canister valve and inspect the connections for any leaks. Tighten if needed. Fully open the valve.
4. Unscrew the trigger stop nut on the gun and spray a test pattern. Adjust nut to vary adhesive output.

ADHESIVE APPLICATION

Hold the applicator 150-250mm away from the surface and apply an even coat of adhesive to 100% of the surface area of both surfaces, achieving approximately 80-100% coverage. Allow adhesive to dry until tacky (1-2mins).

Note: Test for tackiness by gently touching the adhesive with your knuckle. If the adhesive transfers to your skin it is too wet. If the adhesive is tacky and does not transfer to your skin, it is ready to bond. If the adhesive is dry or has very little tack, it is too dry and another coat of adhesive should be applied. Porous substrates may require additional coats. High strength of critical bonds may require two coats per surface.

Apply even pressure over the entire surface to ensure intimate contact. Pressure may be applied by mechanical presses, nip rollers or hand rollers. Insufficient pressure will result in poor bonds.

CLEAN UP

Clean tip after use with CANTAC Citrus Cleaner. Excess adhesive and overspray may be removed with CANTAC Citrus Cleaner ' Acetone, WOODLOK GLAZ.E-AWAY & DSOLV-AWAY, GLUE GURU 05CR or most Industrial Solvents.

EQUIPMENT SHUT DOWN / STORAGE

Screw the trigger stop adjustment nut all the way to the trigger lock position.

DO NOT disconnect the hose until the canister is completely empty and ready to attach to another canister.

The canister system can be stored for up to 2 months without being used. If the canister is going to be left for longer than 2 months it is recommended to turn off the canister, bleed the pressure from the gun and hose. Remove the gun and hose and attach to a canister of Gun & Hose Cleaner and flush out the line for approximately 3 minutes. The gun and hose can then be removed and stored.

Alternatively remove the tip and soak in solvent, spray a small amount of adhesive through the gun and hose every 1-2 months to ensure there is no thickened adhesive in the hose.

TROUBLESHOOTING

COLD WEATHER PROBLEMS

Effects of cold weather and canisters

The adhesive in the canister will thicken as temperatures get colder. The propellants used will decrease in pressure and therefore effectiveness. The propellants may condense and reduce the effective amount of available pressure in the canister. This will adversely affect the spray pattern and consequently, the performance of the adhesive.

How to eliminate cold weather problems

1. Store the canisters in a controlled environment with temperatures between 15°C and 27°C.
2. Keep canisters off cold concrete floors and away from outside walls.
3. Allow additional time for solvents and propellants to flash off when temperatures are below 15°C.
4. If the canisters are too cold for use, they can be brought up to room temperature by submerging them up to the valve in warm water or by attaching a heater belt. Once the canisters equilibrate to at least 15°C, the products will perform as normal.

APPLICATOR - HOSE BLOCK CHECK LIST

If the system sprays poorly, or not at all:

The sequence below runs through to a complete clog in the canister valve. If at any time during the sequence the problem is resolved, stop, clean the needed parts, put the system back together, and you are finished.

1. Make sure the canister is not empty.
2. Make sure the canister valve is open.
3. Close the spray gun trigger stop adjusting nut and clean the nozzle tip. (Does it spray now?)
4. Take off the nozzle tip and try spraying (Does it spray now?). Clean the nozzle.

5. Shut off the canister valve. Carefully and slowly, loosen the spray gun/hose connection and look for adhesive to squirt out. If adhesive starts to leak out, allow it to slowly continue to do so until it stops. (This will be messy but you will need to bleed off the pressurised adhesive to clean the spray gun). The spray gun has a clog at the valve, stem or inlet area and needs to be cleaned.
6. If nothing leaks out after fully loosening the spray gun, carefully remove the spray gun, realising that the hose may be clogged but could be full of adhesive and pressure depending on where the clog is. (Secure the open end of the hose into a bucket in case the clog releases and the system flushes).
7. Carefully and slowly loosen the hose connection at the canister valve. Look for adhesive to squirt out. If adhesive starts to leak out, allow it to slowly continue to do so until it stops. (This will be messy but you will need to bleed off the pressurised adhesive in the hose.) Clean or replace the hose.
8. With everything now isolated from the canister, place a bucket in front of the canister valve and slowly open to see if any adhesive comes out. If it does, put the cleaned system parts back together. If it does not, there is something wrong with the canister valve and it should be returned.
9. Be sure to wear appropriate PPE, especially eye protection when connecting/disconnecting gun or hose.

Solvents that can be used for cleaning the nozzle, spray gun:

CANTAC Citrus Cleaner, Acetone, Toluene, WOODLOK GLAZE-AWAY & DSOLV-AWAY, GLUE GURU 05CR or most Industrial Solvents.

For cleaning the hose:

Attach gun and hose to a canister of CANTAC Gun & Hose Cleaner and flush out for approximately 3 minutes.

HEALTH & SAFETY

Refer to the Material Safety Data Sheet for health and safety information before using this product.

HANDLING & STORAGE

Product should be stored between 5°C and 25°C on a wooden pallet and kept from freezing. Keep out of direct sunlight and away from sources of heat. If the product has been left for prolonged periods between uses, agitating is recommended.

DISPOSAL

Canister disposal: Use extreme caution. Empty canister completely. Puncture the friable disc on the canister using a non-spark producing tool. Dispose of the scrap metal in accordance with local regulations.

SHELF LIFE

Best used within 24 months from date of manufacture when stored under the above conditions in the original unopened containers.

LIMITATIONS

ROOF-TAC is not suitable for Polystyrene.

TESTING

Always test the suitability of the product for your application before use.



2. ALLCO PIR BOARD



Conqueror PIR insulation is a Polyisocyanurate rigid board, suitable for use in:

- Buildings
- Extensions
- Renovations

You can be confident it provides reliable, long-term energy savings that helps to 'future-proof' your building.

Lightweight and easy to install, it offers double the R value of polystyrene in the same thickness.

Insulation is arguably the most vital contribution to the thermal efficiency of any home, keeping the cold air out and the warm air in. An investment in quality insulation pays itself off in saved energy costs in a surprisingly short amount of time.

Polyisocyanurate (PIR) is one of the most effective insulation materials used in construction. PIR insulation core sandwiched between two high performance paper/foil facings creates a durable, light weight insulation board with superior performance and reduced material cost.

PIR board is a multi application material:

A range of board options meaning;

- Options for both pitched and flat roofs,
- Wall and floor boards
- Internal and external specific variants
- Options for solid walls and concrete slabs

FEATURES

Sizing: From 900mm to 1200mm wide, up to 5500mm long, we can cut panels to length, catering to your building needs.

Water vapour resistivity: Conqueror insulation board has an estimated resistivity of 150MN.s/g.m based on 100mm panel.

Moisture absorption: The PIR core has a low moisture absorption capacity, due to having a closed cell structure making it suitable for use in damp environments. The foil laminate facing gives the boards a high vapour resistance.

Fire retardant:

AS 1366.2-1992, BRANZ Approved.

Due to the properties of PIR, it is fire retardant. Does NOT propagate flames, the core will char but will remain intact.

Unlike EPS, PIR will self-extinguish as soon as the cause of the fire is removed.

All Conqueror PIR Panel is:

- Locally manufactured in Christchurch
- Fire retardant - will not catch fire, only char
- Cost effective building solution for insulation
- Manufactured with a superior turn around rate

CHARACTERISTICS

- Eliminate thermal bridges
- Available in a standard board size of 1200mm x 2400mm
- Easy to cut and shape
- Water and mould resistant
- Excellent dimensional stability
- High performance within cavity air spaces
- Provides reliable long-term energy savings for buildings
- Conqueror NZ Insulation Boards comply with all New Zealand Building Codes and Standards

ALLCO PIR THERMAL INSULATION BOARD INFORMATION

Product Code	Panel Thickness	R-Value
PIRC20	20mm	0.93
PIRC 30	30mm	1.40
PIRC40	40mm	1.87
PIRC50	50mm	2.33
PIRC75	75mm	3.50
PIRC100	100mm	4.67
PIRC150	150mm	7.00

3. ALLCO SECUROCK® ROOF BOARD



High-performance gypsum-fiber roof board for use in low-slope commercial roofing systems

- Exceptional bond and low absorption in adhered systems
- Moisture- and mold-resistant
- Excellent wind-uplift performance
- Manufactured from 97% recycled material

DESCRIPTION

USG Securock® Brand Gypsum-Fiber Roof Board is a high-performance roof board for use in low-slope roofing systems. Its unique fiber-reinforced, uniform composition gives the panel strength and water resistance through to the core. USG Securock Gypsum-Fiber Roof Board provides exceptional bond and low absorption in adhered systems and, with uniform composition, achieves high wind-uplift ratings with no risk of facer delamination. Made from 97% recycled material, USG Securock Gypsum-Fiber Roof Board combines superior performance with sustainable design for all types of built-up roofing systems and most fluid applied, spray foam, metal and any polyester reinforced single ply or modified bitumen membrane systems

ADVANTAGES

Exceptional Strength: Engineered to provide superior wind-uplift performance for a wide variety of roof assemblies. USG Securock Gypsum-Fiber Roof Board has a uniform composition, providing enhanced bond strength of membrane systems with no risk of facer delamination.

Fire Performance: Provides excellent fire performance and demonstrates exceptional surface burning characteristics (ASTM E84 [CAN/ULC-S102] Flame Spread 5, Smoke Developed 0).

Moisture and Mold: Uniform water-resistant core ensures excellent moisture and mold resistance. Scored a maximum "10" for mold resistance on ASTM D3273.

Versatile: Can be used as a component in most single-ply, fluid-applied, built-up, spray foam, metal and modified bitumen roofing.

Sustainability: Made from 97% recycled materials.

INSTALLATION

- Refer to roof system manufacturer's written instructions, local code requirements and Factory
- Mutual Global (FMG) and/or Underwriters Laboratories (UL) requirements for proper installation techniques.
- Use fasteners specified in accordance with above requirements. Install approved fasteners with plates into the USG Securock Gypsum-Fiber Roof Board, flush with the surface. Fasteners should be installed in strict compliance with the roof system manufacturer's installation recommendations and FMG Loss Prevention Data Sheet 1-29. A qualified architect or engineer should review and approve calculations, framing and fastener spacing for all projects. Locate edge joints on, and parallel to, deck ribs. Stagger end joints of adjacent lengths of USG Securock Gypsum-Fiber Roof Board.
- All board edges should be loosely abutted and never kicked in tight in typical installations.
- Roof boards should never be installed if they exhibit frost or are below 32°F.
- See product data table below for maximum flute span when panels are applied directly over metal decking.
- For vertical parapet applications, only 1/2" or 5/8" panels should be used. Maximum framing spacing is 24" o.c.

LIMITATIONS

- USG Securock® Gypsum-Fiber Roof Board is engineered to perform within a properly designed roof system. The use of USG Securock® Gypsum-Fiber Roof Board as a roofing component is the responsibility of the design professional.
- Consult roofing manufacturers for specific instructions on the application of their products to USG Securock® Gypsum-Fiber Roof Board. For fully adhered fiberglass reinforced membranes consult the membrane manufacturer.
- Weather conditions, dew, application temperature, installation techniques and moisture drive can have adverse effects on the performance of the roof system and are beyond the control of USG. Keep USG Securock® Gypsum-Fiber Roof Board panels dry before, during and after installation. USG Securock® Gypsum-Fiber Roof Board should not be installed during rain, heavy fog and any other conditions that deposit moisture on the surface of the board. Apply only as much USG Securock® Gypsum-Fiber Roof Board that can be covered by final roof membrane system in the same day. Avoid exposure to moisture from leaks or condensation.
- Wind uplift (vertical pull) of the roof system as installed can be affected by many factors beyond USG's control, including moisture migrating into the roof assembly from inside or outside the building, proper fastener spacing, the quality of installation especially for fasteners and whether the framing has been properly designed and installed to meet strength and deflection criteria specified in the contract documents. For all these reasons, USG cannot guarantee the wind-uplift resistance (vertical pull) of any roof assembly or system containing USG roof boards.
- Moisture from inside the building can be as big a risk for the roof system as moisture from outside. The contractor installing the roof and the design professional should protect the roof assembly not only from excessive moisture during the construction of the building (new concrete, paint, plaster materials) but also after the building is dried in. The HVAC system must properly manage moisture generated by the occupants of the building to make sure it is vented to the outside and does not migrate into the roof system.
- Panel spacing may be needed based on factors like roof deck's size, membrane color, ultimate deck surface temperature and time of year the roof is installed. The designer of record should use USG's published physical properties below to determine if spacing is needed.
- For reroof or re-cover applications, existing roofing system must be dry throughout prior to application of USG Securock® Gypsum-Fiber Roof Board.
- Plastic or poly packaging applied at the plant to protect board during rail or other transit should be removed upon receipt to prevent condensation or trapping of moisture, which may cause application problems.
- USG Securock® Gypsum-Fiber Roof Board should be stored flat and off the ground with protection from the weather. If stored outdoors, a breathable waterproof covering should be used.
- When applying solvent-based adhesives or primers, allow sufficient time for the solvent to evaporate to avoid damage to roofing components.
- USG allows the bonding of cold mastic-modified bitumen, low rise urethane foam and torching directly to the surface. Flood mopping the board to a substrate followed by a flood mopping of the membrane is allowed. Consult with the system manufacturer for recommendation on these applications.
- USG recommends maximum asphalt application temperature for Type III or Type IV asphalt of 455°F when using USG Securock® Gypsum-Fiber Roof Board. Application temperatures above these recommended temperatures may adversely affect roof system performance.

FIRE PERFORMANCE

- UL Classified (Type FRX-G) as to Surface Burning Characteristics in accordance with ASTM E84 (CAN/ULC-S102).
 - Flame Spread 5 and Smoke Developed 0
- 1/4", 3/8", 1/2" and 5/8" thickness—Class A in accordance with UL790 (CAN/ULC-S107).

See the UL Building Materials Directory for more information.
- 5/8" thickness—Meets requirements of Type X per ASTM C1278 and may be used in P series designs as a thermal barrier.

SYSTEM PERFORMANCE

- FM Approved
 - Complies with requirements of FM 4450 and FM 4470
 - Meets FM Class 1

STANDARDS COMPLIANCE

USG Securock® Gypsum-Fiber Roof Board is manufactured to conform to ASTM C1278, "Standard Specification for Fiber-Reinforced Gypsum Panel."



PHYSICAL PROPERTIES

	1/4" (6.3 mm)	3/8" (9.5 mm)	1/2" (12.7 mm)	5/8" (15.9 mm)
Width, standard	4' (1,219 mm)	Cartridge	Cartridge	Cartridge
Length, standard	4' (1,219 mm) and 8' (2,438 mm)	4' (1,219 mm) and 8' (2,438 mm)	4' (1,219 mm) and 8' (2,438 mm)	4' (1,219 mm) and 8' (2,438 mm)
Pieces per unit for 4' x 8' sheets	50	40	30	24
Weight, nominal lb./unit, 4' x 8' sheet	2,575	2,575	2,575	2,575
Weight, nominal lb./sq. ft.	1.57	1.96	2.76	3.20
Flexural strength, parallel, lb. min., per ASTM C473	40	740	110	161
Compressive strength, psi nominal	1,800 (12.4MPa)	1,800 (12.4MPa)	1,800 (12.4MPa)	1,800 (12.4MPa)
Flute spanability per ASTM E661	2-5/8"	5"	8"	10"
Permeance, perms, per ASTM E96	30	25	26	24
R Value per ASTM C518	0.2	0.3	0.5	0.6
Coefficient of thermal expansion, inches/inch • °F, per ASTM E831	8.0×10^{-6}	8.0×10^{-6}	8.0×10^{-6}	8.0×10^{-6}
Linear variation with change in moisture, inches/inch • % RH, per ASTM D1037	8.0×10^{-6}	8.0×10^{-6}	8.0×10^{-6}	8.0×10^{-6}
Water absorption, % max, per ASTM C473	10	10	10	10
Surface water absorption, nominal grams, per ASTM C473	1.6	1.6	1.6	1.6
Mold resistance per ASTM D3273*	10	10	10	10
Bending radius	25'	25'	25'	30'

4a. ALLCO JM TPO SINGLE PLY MEMBRANE SYSTEM

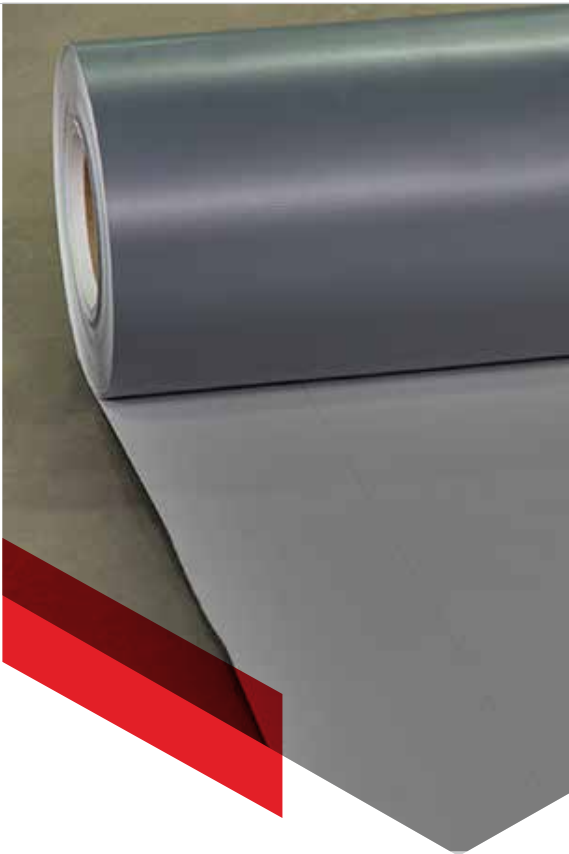


DATA SHEET | ALLCO JM TPO

ALLCO JM TPO

Allco JM TPO is a single ply, polyester fabric reinforced, thermoplastic polyolefin (TPO) fully bonded waterproofing sheet membrane for roofs and decks, applied as a fully bonded or mechanically fixed system with heat-welded seams. Also available in fleece backed (FB).

Allco JM TPO is suitable for commercial and residential low-slope and pitched roofs, gutters, parapets, balconies, and under floating decks. Allco JM TPO can also be used as the waterproofing membrane for Allco's warm & cold roof solutions.



Product	Colour	Thickness (mm)	Roll Length (m)	Roll Width (mm)	Coverage (m2)	Cut-to-length	Water Potable*	BRANZ Appraised	Product Warranty	Stock item
JM TPO	White	1.52	30	1524	46.45		Yes	Yes	20 Years	Indent
		1.52	30	3048	92.90		Yes	Yes	20 Years	Indent
		2.03	23	1524	34.84		Yes	Yes	20 Years	Indent
	Grey	1.14	30	3048	92.90		Yes	Yes	20 Years	Yes
		1.52	30	1524	46.45		Yes	Yes	20 Years	Yes
		1.52	30	3048	92.90	Yes	Yes	Yes	20 Years	Yes
		1.52	30	3657	111.5		Yes	Yes	20 Years	Yes
		2.03	23	1828	41.70		Yes	Yes	20 Years	Indent
	Tan	1.14	30	1828	55.57		Yes	Yes	20 Years	Indent
JM TPO FB	White	2.92	30	3048	92.90		Yes	Yes	20 Years	Indent
	Grey	2.92	30	3048	92.90	Yes	Yes	Yes	20 Years	Yes

SCOPE OF USE

Allco JM TPO membrane is suitable for use as a roof and deck waterproofing membrane on buildings within the following scope:

- The scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1
- The scope limitations of NZBC Acceptable Solutions E2/AS1, Paragraph 1.1 with regard to building height and floor plan area when subject to specific structural design; and with substrates of plywood, Strandsarking (roofs only) or suspended concrete slab;
- With minimum falls of roofs 1:30 and decks 1:40
- With deck size limited to 40m²
- Situated in NZS 3604 Wind Zones, up to, and including Extra High; and with the weather tightness design of junctions for each specific structure being the responsibility of the building designer.

Allco recommends that before specifying waterproofing membrane products that Architects and building designers consult the relevant NZBC documents and NZ Standards including, but not limited to these listed below:

- NZBC Acceptable Solution E2/AS1: External Moisture
- NZS 3604: 2011 Timber-framed Buildings
- AS/NZS 2269: 2012 Plywood - Structural
- AS/NZS 1170: 2002 Structural Design Actions – General Principles NZBC Acceptable Solution C/AS1 – C/AS6: Protection from Fire

TECHNICAL

Durability: Allco JM TPO has a 20 Year durability warranty

NZBC Compliance: Allco JM TPO, when installed and maintained in accordance with the supplier's instructions and maintenance requirements, will satisfy the durability clause NZBC B2.3.1 (b) 15 years. Allco JM TPO meets the relevant clauses of NZBC E3 Internal Moisture and F2 Hazardous Building Materials.

Design requirements: Product specification and incorporation of Allco JM TPO, into the building design shall be carried out by a designer, or architect, or engineer, or building professional who; is qualified to design the buildings covered under the "Scope" of use of this product; and has ready access to the technical specifications

including installation details and standards referenced to in the **BRANZ Appraisal No.1046 (2018)** where the design limitations are outlined for the scope of this data sheet.

Allco JM TPO is supplied as a complete system with proprietary heat weldable accessories to deal with roof penetrations including internal and external corners and pourable pockets. Refer to the Allco website www.allco.co.nz or refer to an Allco Account Manager for a full list of accessories.

INSTALLATION

Installation shall be carried out by an Allco Approved Applicator. Installation shall be undertaken in accordance with all relevant technical information related to the selected installation method, including information contained within the BRANZ Appraisal No. 1046 (2018) and the suppliers installation instructions.

MSDS

Material Safety Data Sheets (MSDS) are available on request from your Allco account manager or by visiting our website www.allco.co.nz

SPECIFICATION & SUBSTITUTION

Allco specification documents are available through Masterspec or can be downloaded from our website (www.allco.co.nz). Substitution of any products in NZBC compliant systems should not be accepted and we recommend this be made clear in all specification and tender documents.

MAINTENANCE REQUIREMENTS

Maintenance requirements for Allco JM TPO are outlined in Allco's Care and Maintenance Guide. In the event of damage to the membrane, the membrane must be repaired by an Allco approved applicator only who can remove the damaged portion and heat weld a patch as for new work. Drainage outlets must be maintained to operate effectively.



masterspec
Specification No. 4422AJ

4b. ALLCO CASALI DERMABIT EXTRA APAO RMBM



PROJECT SPECIFICATIONS: single and multi-layer solutions for: large commercial and industrial roofing, residential buildings, large metal structures with and without insulation, exposed waterproofing systems mechanically fixed, roofing with photovoltaic panels, waterproofing foundations, retaining walls and large structures in general.

REINFORCEMENTS: polyester with high mechanical properties and excellent dimensional stability.

FINISHES: sand, mineral self-protection in different colours.

PLUS: an APAO synthesis engineering polymer based compound that ensures a thermal operating range of -25°C/+150°C, high elasticity, excellent resistance to atmospheric ageing, perfect joint seal and excellent adhesion to any type of deck, high resistance to mechanical and thermal stress; the family of Dermabit® membranes is certified by the most prestigious certification institutes such as BBA, ITC, BRANZ and have been used for more than 40 years in more than thirty countries all over the world.

INSTALLATION

Installation shall be carried out by an Allco Approved Applicator. Installation shall be undertaken in accordance with all relevant technical information related to the selected installation method, including information contained within the BRANZ Appraisal No. 647 (2019) and the suppliers installation instructions.

MSDS

Material Safety Data Sheets (MSDS) are available on request from your Allco account manager or by visiting our website www.allco.co.nz

SPECIFICATION & SUBSTITUTION

Allco specification documents are available through Masterspec or can be downloaded from our website (www.allco.co.nz). Substitution of any products in NZBC compliant systems should not be accepted and we recommend this be made clear in all specification and tender documents.

MAINTENANCE REQUIREMENTS

Maintenance requirements for Allco Casali are outlined in Allco's Care and Maintenance Guide. In the event of damage to the membrane, the membrane must be repaired by an Allco approved applicator only who can remove the damaged portion and heat weld a patch as for new work. Drainage outlets must be maintained to operate effectively.



PHYSICAL PROPERTIES

DERMABIT®	STANDARD	U.M.	DERMABIT EXTRA 40180	DERMABIT EXTRA 4 mm	DERMABIT 30160	4170 CASALI DERMABIT EXTRA**	43170 CASALI DERMABIT EXTRA **	DERMABIT 40250 - 50250
Finishing	-	-	SAND	MINERAL	SAND	SAND	MINERAL	SAND
Reinforcement type	-	-	HSP POL	HSP POL	SP POL	HSP POL	HSP POL	GS POL
Thickness	EN 1849 - 1	mm	4	4	3	4 *	4 *	4-5
Weight	EN 1849 - 1	kg	4	4	3	4	5,2	4-5
Maximum Tensile Force Longitudinal / Trasversal	EN 12311-1	N/5cm	900 / 700	900 / 700	700 / 600	850 / 650	850 / 650	1200 / 900
Elongation at break Longitudinal / Trasversal	EN 12311-1	%	45 / 45	45 / 45	40 / 40	40 / 40	40 / 40	50 / 50
Tearing resistance Longitudinal / Trasversal	EN 12310 -1	N	200 / 200	200 / 200	150 / 150	170 / 170	170 / 170	220 / 240
Flow resistance at elevated temperature	EN 1110	°C	150	150	150	150	150	150
Flexibility at low temperatures	EN 1109	°C	-25	-25	-20	-05	-05	-05
Dimensional stability	EN 1107-1	%	±0,2%	±0,2%	±0,3%	±0,2%	±0,2%	±0,2%
Thermal ageing in air Variation Of Low Temperature Flexibility	EN 1296 EN 1109	Δ°C	5	5	5	5	5	5
Peel resistance of joints	EN 12316-1	N/5cm	40	40	40	40	40	40
* Thickness measured excluding mineral finishing								
Reinforcement - POL: standard performance stabilized non woven polyester / SP POL: medium performance stabilized non woven polyester / HSP POL: high performance stabilized non woven polyester / GS POL: special performance stabilized non woven polyester for great structure / GLASS FIBRE: fibre glass mat reinforced with threads / ALL + POL: aluminium foil coupled with non woven polyester - Finishing - MINERAL: slated / SAND: sanded / PBS: Polyethylene on both sides.								

HEALTH AND SAFETY

Safe use and handling of the materials for the ALLRITE Recover Roof system are supplied in the technical literature. All components of the warm roof system must be used with the relevant MSDS sheets which are available to view in the associated technical literature and from Allco Waterproofing Solutions Ltd.

MSDS INFORMATION

Material Safety Data Sheets (MSDS) are available on request from your Allco Technical Representative or by visiting our website www.allco.co.nz

All information contained in this publication is believed to be accurate and is given in good faith, but it is for the prospective user to satisfy itself as to the suitability of such information for its own particular purpose. In addition, any recommendation or suggestion made relating to the use of the information, either in this publication or in response to specific enquiry or otherwise, is given in good faith but it is for the prospective user to satisfy itself as to the suitability of any such information for its own particular purpose. No warranty is given as to the fitness of the information for any purpose and any implied warranty or condition (statutory or otherwise) is excluded except insofar as such exclusion is prevented by law. No liability is accepted for loss or damage (including liability for negligence or other tortuous act or omission other than that causing death or personal injury) arising from reliance on the information provided. Freedom from patent, copyright or design protection must not be assumed.



If you would like to learn more
or require assistance for design,
specification or compliance,
please speak with your
Allco Account Manager
today on (09) 448 1185 or
email tech@allco.co.nz

5 Te Kea Place, Albany, Auckland,
P.O. Box 101 903, North Shore 0745.
09 448 1185 www.allco.co.nz



MEMBER
2019-2020



USG BORAL 


CONQUEROR


Johns Manville

 **CASALI**
DIVISIONE MEMBRANE
MEMBRANES DIVISION


GLUE GURU
INDUSTRIAL PRODUCTS