

# Fireprotection

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## THATCH MARSHAL 8000:

### APPLICATION PROCEDURE TO TREAT THATCH ROOFS

#### 1. Determine how much Thatch Marshal 8000 to use

First determine the roof area - do this by multiplying the floor area by the gradient of the roof (usually 45 degrees) Next multiply the roof area by 1.2 - this gives you the amount of Thatch Marshal 8000 needed in total in liters. Now determine how much of formula 1 you need by taking the total and multiplying it by 75%. To get the amount of formula 2 needed, take the total and multiply it by 25%.

Example: The lapa is a rectangle of 3m by 4m and the gradient is 45°.

Calculation:

- Step 1:  $3 * 4 = 12 \text{ m}^2$  (this is floor area)
- Step 2:  $12 * 1.45 = 17.4 \text{ m}^2$  (this is roof area)
- Step 3:  $17.4 * 1.2 = 20.88 \text{ l}$  (total amount Thatch Marshal 8000 needed)
- Step 4:  $20.88 * 75\% = 15.66 \text{ l}$  (Thatch Marshal 8000 Formula 1)
- Step 5:  $20.88 * 25\% = 5.22 \text{ l}$  (Thatch Marshal 8000 Formula 2)

NB: if the roof is older, use 1.4 liters per m<sup>2</sup> instead of 1.2 (step 3)

#### 2. Equipment

- Airless roof sprayer: we use Wagner, Titan and Larius
- Safety masks: use 3M face piece 6300 and filter 6059 (type ABEK1)
- Plastic drop sheets
- Ladders (1 \* 12 m extension ladder and 1 step ladder)
- Drip trays: geyser trays works well
- Rags: use a damp cloth to wipe up spillages
- Overalls

#### 3. Important safety measures

Never spray without the correct respirator!

Always ensure someone is holding the ladder while a person is spraying the roof.

Always wear suitable protective clothing – eye protection and gloves.

#### 4. Conditions of the roof

Before you consider treating a thatch roof, check the following and advise the client if any remedial work must be done prior to the treatment:

- the specified quality of the thatch grass: ensure that no repairs are necessary and that the outer surface does not require combing
- the compaction of the thatch layer is adequate and that the sisal binding twine is adequately tensioned
- the thatch is not less than 175 mm in thickness
- the rafter spacing is not more than 900 mm apart
- the lath spacing is not more than 250 mm apart
- the roof structure is of sound construction without defects and within deflection limitations (excessive movement of the roof structure may impact on the effectiveness of the fire-retardant treatment of the thatch layer over time)
- the ridge cap is according to specification and aesthetically acceptable <sup>(1)</sup>

#### 5. Treating the roof

Before you start

- Check the weather: if it is cloudy and you think it is going to rain later, rather postpone the treatment to a sunny day. If it rains before the chemicals are completely dry, you'll have to retreat that portion.
- Check the thatch: the thatch must be 100% dry. If it is wet/damp leave it to dry before you start.

Outside:

- Always start with the outside treatment, because there is a chance it can rain in the afternoon. This way the chemicals has longer to dry. Always stop spraying at 16:00 – the treatment won't dry properly once the sun goes down.
- Mask everything in and around the thatch: paving, rock art, braais, hand rails, windows etc. This is important because once Thatch Marshal 8000 dries, it won't come off.
- Set the airless roof sprayer's pressure to 2500 – 3000 psi. Use spray gun tip type 517
- For the outside treatment use only Thatch Marshal 8000 Formula 1
- Start at the fibreglass / cement ridge and work your way down to the overhang. Be careful not to spray the ridge. Try to get some Thatch Marshal 8000 in underneath the fibreglass ridge.
- Keep the gun at a 90° in relation to the thatch. Keep the gun as close as possible, almost touching the thatch. Working from top to bottom (vertical strokes) apply 3 strokes per section. Spray any chemicals that run off into the thatch as you go along.
- Move the ladder  $\pm$  1 m from previous point. Start spraying as described above, overlapping the previous just sprayed area by applying a surface coating to the join (keep the gun at about 15 cm from the grass and apply a coating)
- It is important to ensure that high risk areas, such as chimeys, braais and thatch that is adjacent to open veld, be treated with an extra coating. Apply 2 to 3 surface coatings to these areas. Check that the thatch is hard.
- To treat the edge, keep the gun at the same gradient as the roof and spray

- into the end of the thatch roof. Make sure the thatch is glued together.
- On the overhang (the bottom 1,5 m from the edge) spray a surface coating (keep the gun 15 cm away from the thatch)

Inside:

- Set the airless roof sprayer's pressure down.
- Use only Thatch Marshal 8000 formula 2 on the inside.
- Take all small pieces of furniture etc. out. Mask everything that you can't remove.
- Start at the bottom & overlap the edge. Move upwards toward the peak of the roof.
- Check for spillages constantly & wipe up any immediately with a damp cloth. Give special attention to the rafter poles, but you can leave battens / laths.
- Wait until the dripping stops. Now wipe the plastic drop sheets with a damp cloth (to remove any excess Thatch Marshal 8000)
- Clean your airless roof sprayer immediately. Get 4 drums filled half way with clean water and set the machine to the recycle setting. Circulate the water in each drum for 40 seconds or longer.
- Spray the last Thatch Marshal 8000 left in the pipe out onto the roof.
- Spray clean water through the pipes until the water runs clear.
- Brush the gun's tip with a steel brush to remove clogged up chemicals.

## **6. Afterwards - certification & re-treatment**

- After the treatment is finished, issue the client with a completion certificate.
- Inform the client when the outside treatment has to be re-applied. If the thatch is new, the certificate is valid for 5 years. If the roof is old, the certificate is valid for 4 years. If the roof is brushed after the treatment, then the certificate is void and the treatment has to be redone.
- Advise clients to keep a fire extinguisher within easy reach in case of a fire. It is also a good idea to keep a ladder, hosepipe and rake (for pulling down smouldering thatch from the roof) close by.

## **7. Other important notes**

- Clearly state on all documentation that this is a 'fire retardant' not a 'fire proof' chemical
- Keep proper records of all quotes, invoices, completion certificates and other relevant documents for at least 5 years

## **8. References**

1. Thatch Guide: Published by the Division Of Building and Construction Technology, © 1998, CSIR, Pretoria