

SPACEMAT

Spacemat is a lightweight timber pack made from Saligna wood for cost effective and reliable stope support.

AREA OF APPLICATION

- **Fire-Resistant Support Solution** – Engineered for use in all fire-prone areas, ensuring compliance with stringent mine safety standards.
- **High Load-Bearing Capacity** – Specifically designed to withstand extreme loading conditions, making it suitable for deep-level mining applications.
- **Optimized for Minimal Stope Closure** – Maintains structural integrity in environments where stope convergence is limited.
- **Prevents Bed Separation** – Effectively mitigates the risk of bed separation, ensuring enhanced rock mass stability.
- **Supports Pillar Reduction or Removal** – Provides reliable load transfer in cases where pillar dimensions are reduced or completely removed.
- **Key Block Stabilization** – Prevents the displacement and loosening of key blocks, reducing fall-of-ground hazards.

INSTALLATION PROCEDURE

1. **Safety Verification:** Conduct a thorough assessment of the immediate working area to ensure stability. Never operate beyond 1 meter from a supported area to mitigate fall-of-ground risks.
2. **Footwall Preparation:** Clear the footwall of debris and loose material to ensure a stable foundation for support installation.
3. **Support Alignment:** Mark support and pack positions in a straight line to maintain structural integrity and load distribution.
4. **Base Installation:** Position the base layer of pack stabs facing down dip to enhance stability and load transfer.



PACKAGING

- **Storage Configuration:** Each pallet contains 192 Spacemat blocks, ensuring uniform load distribution.
- **Protection Measures:** Pallets are wrapped in plastic to prevent contamination and degradation from moisture and dust.
- **Stacking Guidelines:** Pallets must be stored side by side on a stable, level surface to maintain structural integrity. Stacking pallets on top of one another is not recommended to prevent potential compression damage and deformation of the Spacemat blocks.

WHAT THE SPACEMAT OFFERS YOU?

- **Efficient Installation:** Simple, fast, and easy pack construction optimizes support installation time.
- **Versatile Stability:** Suitable for height-to-width ratios of up to 2:1, ensuring adaptability in various stoping conditions.
- **Enhanced Fire Resistance:** Timber is dipped in a fire-retardant solution, allowing

5. **Layer Orientation:** Construct the pack with each successive layer of stabs oriented at 90 degrees to the previous layer to improve interlocking and structural strength.
6. **Support Functionality:** This installation method ensures a stable support base along gullies while minimizing the entrapment of fines, which could compromise pack efficiency.
7. **Interlocking Configuration:** Alternate the orientation of subsequent layers along dip and strike to achieve effective interlocking and maximize load-bearing capacity.
8. **Pre-Stress Application:** Install a pre-stressed bag/plate of the correct size between the last two layers to enhance pack rigidity and load absorption.
9. **Additional Pre-Stressing:** For stoping widths exceeding 1.8 meters, install an additional pre-stressed bag/plate at the center of the unit and another between the final two top layers to reinforce support integrity.
10. **Gap Management:** Where required, use timber off-cuts to block open spaces at the hanging wall to prevent displacement and maintain pack stability.

OBJECTIVES

Our fundamental objectives are to safely, before any observation can resume underground, to install / construct support safely by means of Spacemat according to the required mine operation standard as prescribed.

1. On the job training (OJT) and continuance evaluation (CE)
2. Record keeping
3. Planned Task Observation (PTO)

deeper penetration compared to surface spraying. This significantly reduces the risk of fire propagation underground.

- **Gold Fines Retention:** The solid pack structure prevents the loss of valuable gold fines, improving ore recovery.
- **Controlled Stopping Width:** Provides excellent stopping width control, maintaining excavation dimensions and ground stability.
- **Seismic and Rockfall Protection:** Effectively reduces rockburst damage and fall-of-ground incidents, enhancing worker safety.
- **High Pre-Stress Performance:** Delivers a high pre-stressed load upon installation, improving immediate load-bearing capacity.

Custom sizes are available upon request to meet specific mining conditions.

PERMANENT SUPPORT REPLACEMENT OF DAMAGED SUPPORT

- Installation of additional permanent support in the immediate area where packs is damaged to be done before resuming work.

PRE-STRESSING

1. Workers should take safe position
2. Pre-stress a pack with water or approved grout from a supported area
(NB: refer to mine operation for pre-stress of a pack with a power stress plate / grout)



TECHNICAL DATA SHEET



QUALITY ASSURANCE

Rainbow Mining Support (Pty) Ltd production and testing programs comply with all local (ISO 9001:2015) and international testing standards.

CUSTOMER SERVICE

For additional support options available at your area, contact our local offices.

www.rainbowms.co.za

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