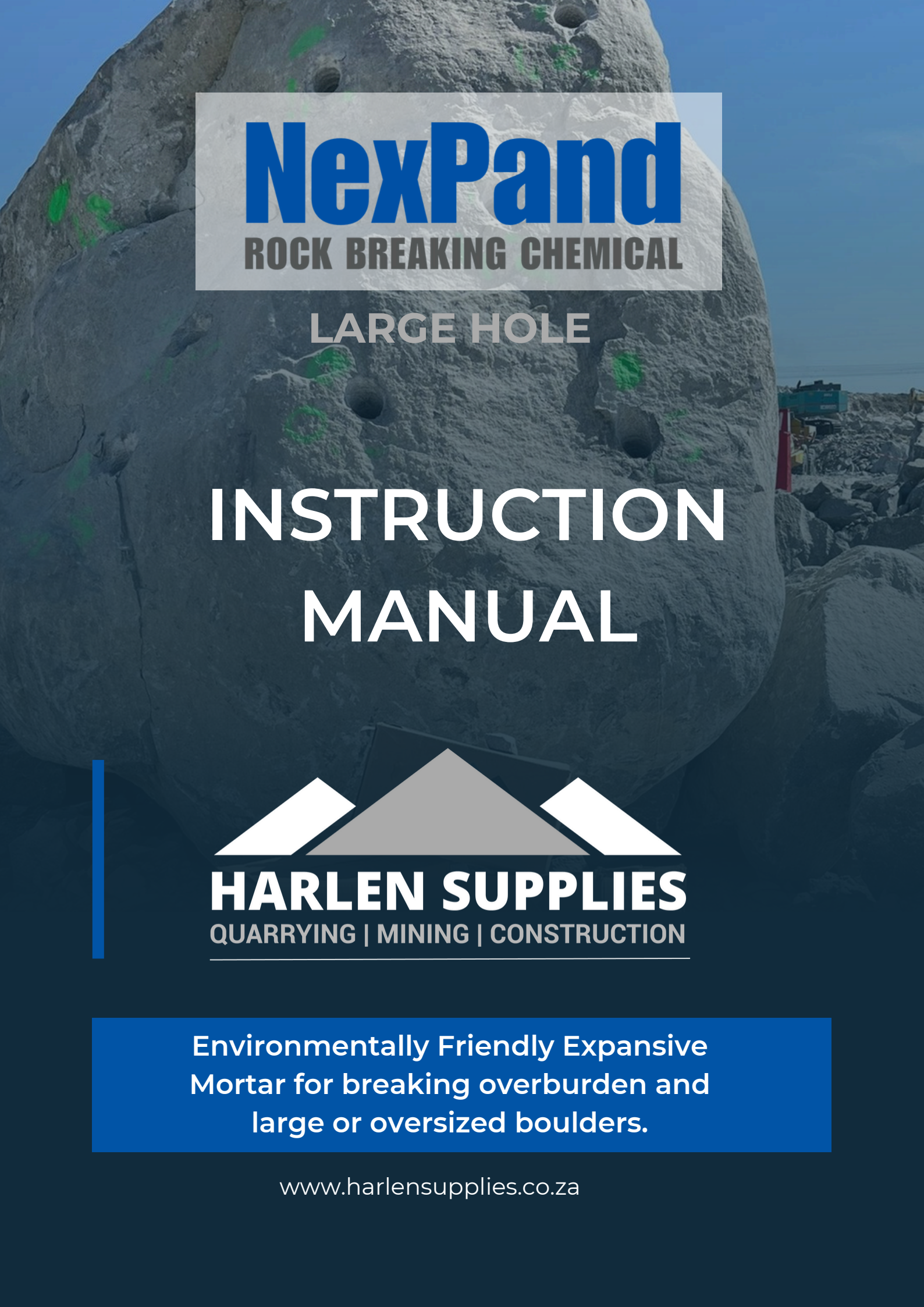




NexPand

ROCK BREAKING CHEMICAL

LARGE HOLE

INSTRUCTION MANUAL



HARLEN SUPPLIES

QUARRYING | MINING | CONSTRUCTION

**Environmentally Friendly Expansive
Mortar for breaking overburden and
large or oversized boulders.**

www.harlensupplies.co.za

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Section 1 – About Harlen Supplies & NexPand

Harlen Supplies (Pty) Ltd is a leader in rock-breaking technology across the quarrying, mining, and construction industries in Southern Africa. With a commitment to innovation, sustainability, and customer-centric solutions, Harlen Supplies introduces **NexPand Large Hole** — a revolutionary expansive mortar.

Section 2 – Product Overview

NexPand Large Hole is a specially formulated rock-breaking chemical available in powder form. When mixed with water, it undergoes controlled expansion, generating up to 100 MPa (8000 MT/m²) of pressure — enough to crack and break the toughest rocks and concrete without the need for explosives.

NexPand Large Hole Chemical differs significantly from the standard NexPand range due to its distinctive chemical formulation.

- ✓ No vibration.
- ✓ No noise.
- ✓ No toxic gases.
- ✓ No fly rock.
- ✓ No permits required.
- ✓ Safe for unskilled labour.



Section 3 – NexPand Large Hole Applications

Nexpand Large Hole Chemical is specifically designed for large holes enabling larger burden and spacing, making it ideal for breaking overburden and large or “oversized” boulders or rock formations in any quarrying, mining or construction operation.



Section 4 – Types of NexPand Large Hole & Temperature Range

NexPand Large Hole is packaged in 20kg cartons containing 1 individual 20kg bag.

Always use the appropriate type for optimal performance and safety. The reaction time of **NexPand Large Hole** is determined by the rock type, ambient temperature, as well as the temperature of the object to be demolished.

Type	Temperature Range
Type 2	10°C to 25°C
Type 3	25°C to 40°



Section 5 – Storage & Shelf Life

- Shelf life: 12 months from manufacturing date.
- Store in a cool, dry, well-ventilated area.
- Do not place cartons directly on floor; use pallets.
- Re-seal unused bags in airtight plastic bags immediately.
- Avoid exposure to moisture.



Section 6 – Safety Precautions

Before use, always wear:

- Always wear PROTECTIVE GLASSES, RUBBER GLOVES, DUSTPROOF MASK and HARD HATS during work.
- After holes have been filled, keep your face away from the hole during the first 2-3 hours as the product might (though highly unlikely) violently eject from the hole (“blow-out”) if instructions have not been followed correctly.
- Do not use small or narrow-mouthed containers, or glass containers such as bottles, flasks, etc., as the product is expansive.
- In the event of **NexPand Large Hole** contamination to your eyes, rinse the eyes immediately with plenty of cold, clean water and consult a doctor – DO NOT RUB the eyes.
- Do not use **NexPand Large Hole** for purposes other than cracking rocks or concrete as instructed in this document.
- **NexPand Large Hole** generates heat once mixed with water.



Section 7 – Preparation Guidelines

- Measure the boulder or bench dimensions.
- Calculate the required quantity of **NexPand Large Hole** based on size hole drilled and depth.
- Confirm ambient temperature is within the chemical's operating range.
- Ensure access to clean, cold water before starting.
- Prepare necessary tools: drill, correct bit (64–127mm), mixer (recommended), bucket, PPE.
- Conduct a small test if unsure about drill hole spacing or size.

Estimate Consumption Of NexPand Large Hole Powder In 1m Holes

Hole Diameter (mm) 	64 mm	76 mm	89 mm	102 mm	115 mm	127 mm
Powder Mass Kg/m 	5 kg	8 kg	12 kg	16 kg	20 kg	25 kg

Section 8 – Drilling Instructions



- Choose a drill bit size between 64 mm and 127 mm.
- Drill to at least 90% of the boulder's depth.
- Space drill holes approximately 1–1.5 meters apart.
- Drill angled holes into boulders to prevent spillage, especially with **NexPand Large Hole's** fluid consistency.

Section 9 – Mixing & Pouring Instructions

- Mix one box of **NexPand Large Hole** with 6 liters of clean, cold water.
- Use a mechanical mixer for **NexPand Large Hole**; hand mixing is not sufficient.
- Ensure even consistency.
- Pour the entire contents (liquid and solids) of the bucket into the hole immediately.
- Use a funnel for precision.
- Do not disturb for at least 24 hours to allow the chemical to work effectively.
- Do not plug with hard material; cover only in rain with waterproof sheeting.



Section 10 – Reaction Times & Results



- Reaction time depends on temperature and rock type.
- The reaction time varies with weather conditions, ranging from 2–3 hours up to 24 hours based on the ambient temperature.
- Expansion begins slowly, creating internal pressure.
- Full breakage visible within 24 hours.
- Large diameter holes positioned closer together accelerate breaking times.

Warning: Blow-outs may occur if holes are overfilled or not prepared correctly.

Section 11 – Blow-Outs

Blow-Out Causes:

- Wrong **NexPand Large Hole** type for temperature.
- Overfilled holes.
- Narrow-mouth containers.
- Delayed pouring after mixing.

What to Do:

- Clear area immediately.
- Do not stand over filled holes for the first 2–3 hours.
- Always follow PPE requirements.



Signs of Imminent Blow-Out: Steam or smoke from holes.

Section 12 – Do's and Don'ts!



Do's

- Use the correct **NexPand Large Hole** type for ambient temperature.
- Mix with cold, clean water only.
- Pour immediately after mixing.
- Keep holes clean and properly spaced.
- Conduct trial runs if unsure.



Don'ts:

- Use hot water or mix in small/glass containers.
- Plug holes with setting material.
- Store in direct sunlight.
- Reuse opened bags unless sealed airtight.
- Pour into glass or sealed containers.

Section 13 – Contact Information

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