

# DURAPAK®



Durapak® cellular lightweight concrete blocks, reinforced with annealed steel wire mesh and polypropylene fibres, are engineered for optimal gully protection through high initial stiffness and a flat Load vs Deformation curve.

## BENEFITS

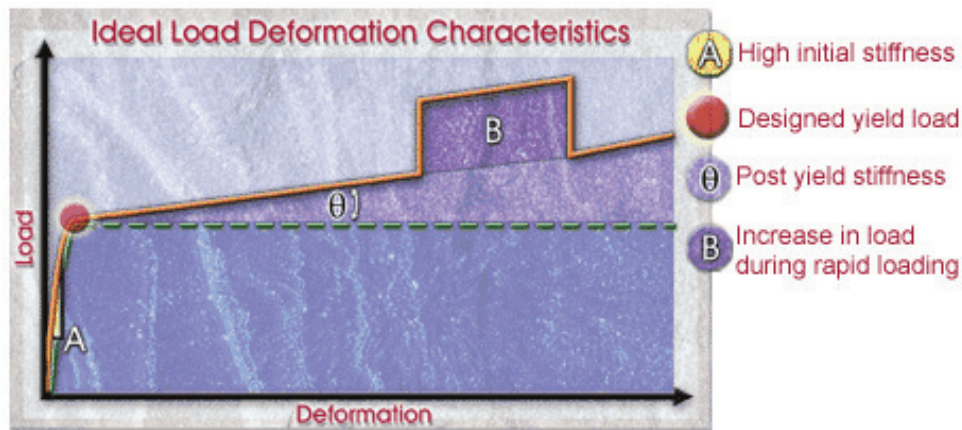
- Increase ore reserves by improving the percentage ore extraction and safely decrease the pillar size
- Improve grade by better stope width control and no loss of gold fines inside the pack
- Significantly reduce rockfalls and rockburst damage
- Maximise material car utilisation
- Eliminate fire risks

## DESIGN FEATURES

MATERIAL AND STRUCTURAL PROPERTIES	PERFORMANCE
High E-Modulus (Stiffness) at underground closure rates (1mm - 50mm per day)	<ul style="list-style-type: none"> <li>• Generates the required initial stiffness when deformed at slow loading rates</li> <li>• Required support resistance is reached after only 1-2,5% closure</li> <li>• This ensures active support and early maintenance of strata integrity</li> <li>• Does not creep and loses load at slow deformation rates</li> </ul>
Designable yield load	<ul style="list-style-type: none"> <li>• Yields at predetermined loads</li> <li>• Does not generate too much load, which may damage the roof or floor</li> </ul>
Durapak maintains post yield during closure	<ul style="list-style-type: none"> <li>• No load shedding takes place during post yield.</li> <li>• Allows controlled closure of the workplace</li> </ul>
Constant low crushing strength, during rapid loading over a large deformation range	<ul style="list-style-type: none"> <li>• Durapak® has the ability to reduce the impact of a rockburst. The mechanism of dissipating the kinetic energy, serves to increase the deformation range, rather than increase the force generated. It therefore acts like a shock absorber during impact, not like a stiff spring</li> <li>• This prevents damage to the surrounding rock mass during rapid closure</li> </ul>
Material properties are homogenous and non-biodegradable	<ul style="list-style-type: none"> <li>• The performance is repeatable and not affected by time or hostile environments</li> <li>• Ensures that all support elements and structures behave in the same manner at all stages of closure</li> </ul>
100% surface contact between individual units	<ul style="list-style-type: none"> <li>• Ensures that no point loading occurs in the structure, as this will negatively affect all the above-mentioned properties</li> </ul>
Buckling stability during normal- and rapid closure	<ul style="list-style-type: none"> <li>• The pack will not buckle when it is built according to specifications, using Durapak® units</li> </ul>
Fire resistant material	<ul style="list-style-type: none"> <li>• Non-combustible.</li> </ul>



## DURAPAK®'S IDEAL LOAD DEFORMATION CHARACTERISTICS



## TRANSPORT

- Pallets customised as required
- Optimised utilisation of the mine's transport infrastructure
- Safe and easy to transport

## HANDLING

- Tailormade for mono-rope winches
- Impact resistant during transport and handling
- Lightweight for easy handling and fast pack construction.

## IN THE STOPE

- Immediately active stope support
- Close-to-face installation
- No loss of fines in packs due to the solid construction
- Effective pre-stressing eliminates blast outs
- Fire resistant

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