

LOCOMOTIVE PRIMARY SUSPENSION SPRING

RAIL

PRODUCTS & SERVICES

- Primary suspension elements. Locomotives and passenger rolling stock.
- Secondary suspension elements. Locomotives and passenger rolling stock.
- Coil spring resilient pads.
- Traction pads.
- Engine and transmission raft suspensions.
- HVAC system resilient mounts and Seals
- Sterable bogie elements.
- Shock absorber support bushes.
- Drawbar, resilient slack adjuster wedges.
- General products

CAPABILITIES

- FEA design and validation.
- Unigraphics CAD design.
- Analysis for Modal vibration studies.
- NATA certified laboratory.
- Full formulation development and testing.
- Broad range of rubber processes.

QUALITY ASSURANCE

ISO 9001
ISO 1401
ISO/TS 16949



CERTIFIED QUALITY MANAGEMENT SYSTEM
ISO 9001



CERTIFIED ENVIRONMENTAL MANAGEMENT SYSTEM
ISO 14001



ISO TS 16949



8 per bogie over 3 bogies

Currently used for Queensland Rails Class 3100 & Class 3200 narrow gauge electric locomotives, Mackay conical primary suspension elements are to be used for the upgraded locomotives (class 3700).

Queensland Rails' re-powering and traction control upgrade by United Goninan will significantly increase tractive capacity. The Class 3100/3200/3700 locomotives are used for coal hauling operations over narrow gauge tracks.



QR Class 3100 – 3200

Axles: Bo-Bo-Bo

Gauge: Narrow

Weight: 110 tonne

Constructor: Comeng

Power: GE – Hitachi 25kV AC

2900 kW (3870 Hp)

Introduced: 1986

Initial Fleet: 87



Worldwide
Engineered
Rubber
Products

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PASSENGER PRIMARY SUSPENSION ELEMENTS

RAIL

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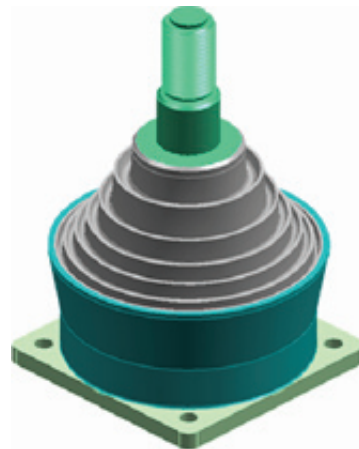
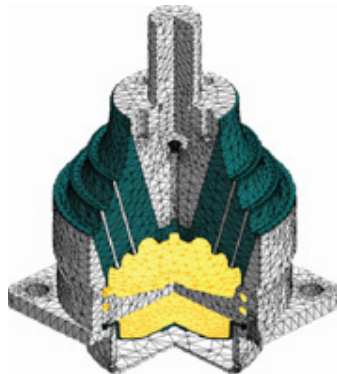
Mackay has developed replacement primary suspension elements for an Australian suburban operator. The Primary suspension elements are of two types. Elastomeric Conical and Elastomeric Conical with integral fluid damping.

Mackay's engineering design facilities have been expanded to include Kinematic modeling and Fluid Coupled Finite Element Modeling.

This expanded capability moves places Mackay's design capability at the forefront of design in the region.

Mackay's ability to re-engineer primary suspensions allows further development of suspension characteristics for improved ride and durability.

Mackay manufactures in low volumes with production batch sizes as low as 96 pieces (3 car set).



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