CIRCLY 6.0

A powerful tool for pavement design.

Comprehensive and Powerful

CIRCLY is a powerful, user-friendly, Windows-based package that automates mechanistic pavement design and analysis.

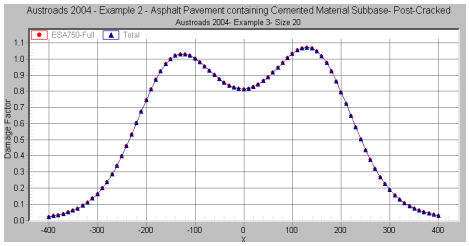
This Australian designed system has been in regular use World-wide for more than two decades proving its worth in thousands of design applications. Since 1987 it has formed an integral part of the Austroads Pavement Design Guide, the standard for road design in Australia and New Zealand.

CIRCLY implements a rigorous flexible pavement design methodology that incorporates state-of-the-art pavement material properties and performance models. It calculates the cumulative damage induced by the whole traffic spectrum.

Easy to Use

Defining Inputs
Pavement and loading databases eliminate the need to constantly re-key information. CIRCLY is an open system that lets you define your own material properties and loadings.

Viewing the Results
CIRCLY generates graphs that show the variation of the damage factor across the pavement.
CIRCLY can also generate graphs of any component of displacement, strain or stress in two-dimensional or three-dimensional form.



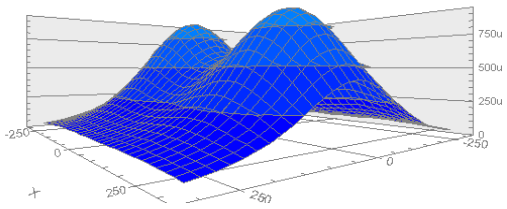
Damage graph shows damage variation across pavement.

Slash Days From Your Design Jobs!

Automatic thickness design capability – determine the optimum thickness of a given layer in a few seconds on a Pentium PC.

Simultaneous calculation of the damage factor for all layers with a performance model.

A Parametric Analysis feature can loop through a range of thicknesses for one or two layers, while simultaneously designing the thickness of another layer. This feature will optimise up to three layers. Combining this with a Cost Analysis feature, allows for fine-tuning of layer thicknesses to minimize construction and maintenance costs.



Sample Three-dimensional plot: strain pulse under dual wheels

Proven Technology

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Requirements

- Windows Vista, Windows 7 or 8.x

Features

Material models

- multi-layered pavement system
- isotropic and anisotropic materials
- define your own performance criteria
- automatic sub-layer generation for granular materials.

Traffic Loadings

- no limit on the number of vehicle types or loading conditions
- analysis explicitly uses specified spectrum
- erroneous short-cuts such as "equivalent" axles are not necessary
- special loadings such as braking included
- non-uniform surface contact stress distributions

Optimize Costs

The Cost Analysis feature lets you fine tune layer thicknesses to minimize construction cost. You can specify unit costs for each material.
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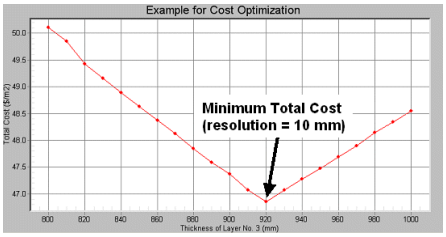

Automatically generated plot:
Total Cost vs. Layer 3 Thickness

Formulation

Full Spectral Analysis

CIRCLY accumulates the contribution from each loading in the traffic spectrum at each analysis point by using Miner's hypothesis.

The procedure takes account of—

- the design repetitions of each vehicle model/load combination; and
- the material performance properties used in the design model.

This approach allows analyses to be conducted by directly using a mix of vehicle models. It is not necessary to approximate passes of different vehicles or axles to passes of an ‘equivalent’ standard load or "design vehicle".

Benefits from CIRCLY

CIRCLY offers benefits to all parties involved in designing, constructing, owning and using pavements.

- Designers benefit from the inclusion of automated functions and faster analyses.
- Material suppliers will make significant saving because the costs and dangers of over-specification or under-specification due to inaccurate information are significantly reduced.
- The facility owner benefits from more efficient use of materials and will reap long term benefits. because changing traffic patterns on proposed designs can be considered and planned for.

Try out CIRCLY now!

We invite you to try out CIRCLY for yourself! Simply visit *www.mincad.com.au* to download an evaluation version.

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