

# NON DESTRUCTIVE STRUCTURAL ANALYSIS OF POLE AND COLUMN STRUCTURES



Rei-Lux AUS



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“Increased **safety** for the public, lower **cost** for asset owners,”

# INNOVATIVE NON DESTRUCTIVE TESTING PROVIDING GREATER SECURITY AT A LOW COST

*Australian Freeways, Highways, Major Roads, Power Lines and urban street areas today feature vast numbers of poles and column structures that support lighting, traffic signal advisories, advertising, security camera equipment and power lines.*

*They are constantly subjected to the potentially destructive influences of weathering, chemical reaction in soils, traffic vibration, salt erosion, oxidation and pesticides. Any of these influences can impact the stability of a structure but often the effects are such that symptoms may not be obvious.*

## What is Rei-Lux?

Rei-Lux has patented an intelligent, three-dimensional testing and measuring technique, which uniquely exposes potential defects, from below ground to the top of a column.

It is easily capable of showing cracking underground, distortion hidden beneath access panels, reveal foundation weaknesses around the base of the column and uncover potential

issues with connections to light fixtures and outreaches/ brackets.

Any area of structural weakness can be detected by the Rei-Lux 3D measurement system and can be applied to any column design and all types of materials from steel to aluminium, fibreglass, wood and concrete.



Rei-Lux Germany, has been active in public lighting solutions since 1988. The company holds 15 registered patents covering stability testing, particularly in innovative static and dynamic methods.

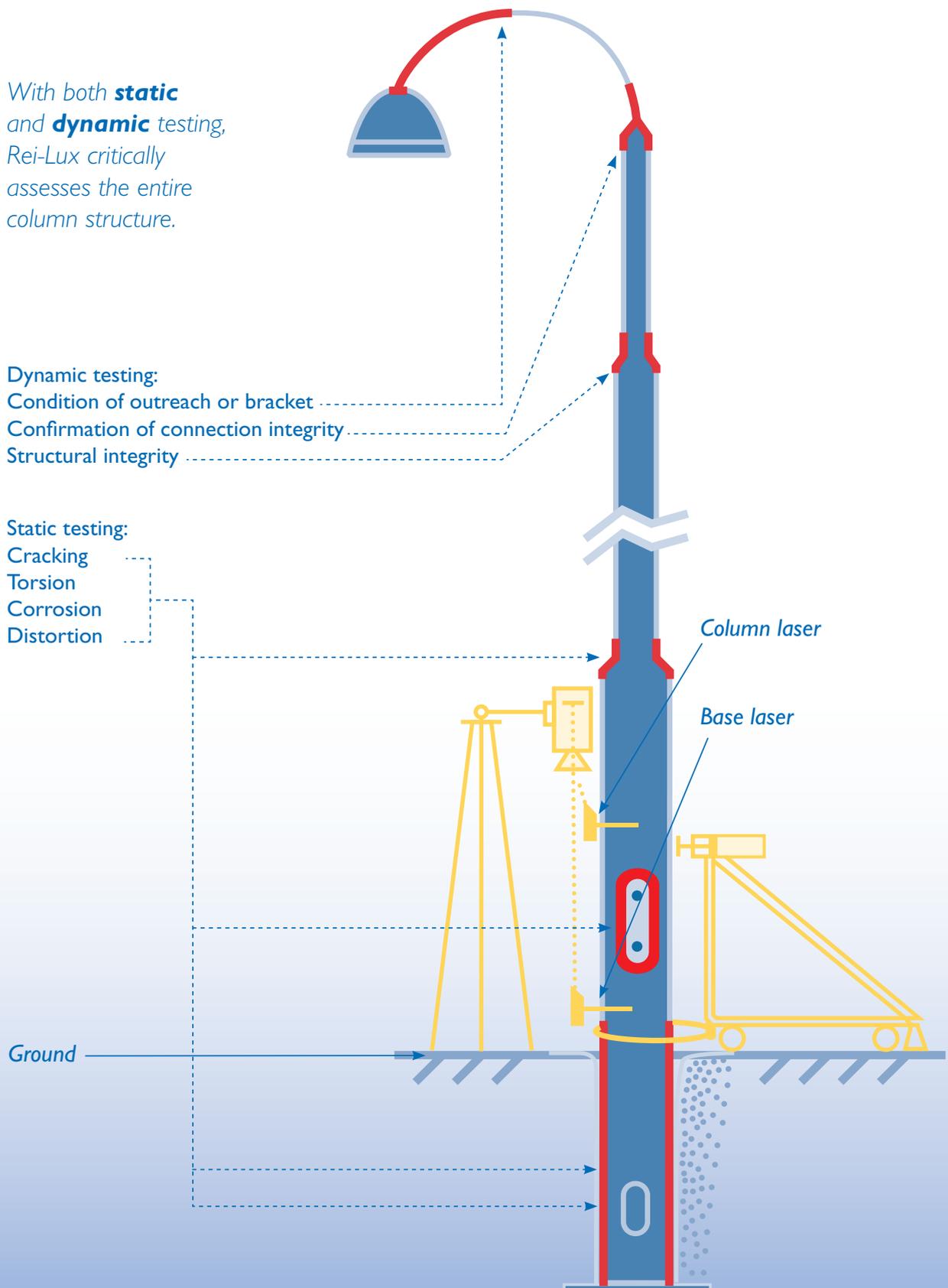
Rei-Lux continually develops these techniques with the aim of improving the safety and well being of the general public whilst giving asset owners peace of mind.

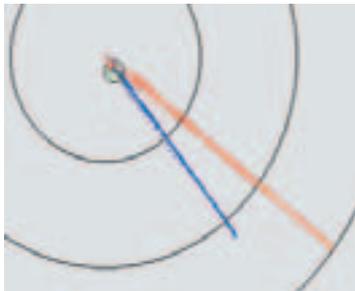
# AGING POLES AND COLUMNS MAY POSE A RISK TO PUBLIC SAFETY AND THE ENVIRONMENT

With both **static** and **dynamic** testing, Rei-Lux critically assesses the entire column structure.

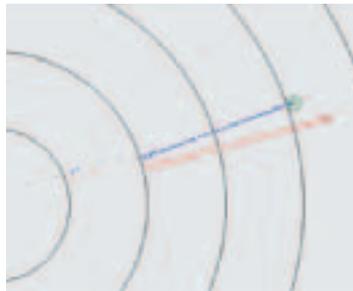
Dynamic testing:  
Condition of outreach or bracket .....  
Confirmation of connection integrity .....  
Structural integrity .....

Static testing:  
Cracking .....  
Torsion .....  
Corrosion .....  
Distortion .....

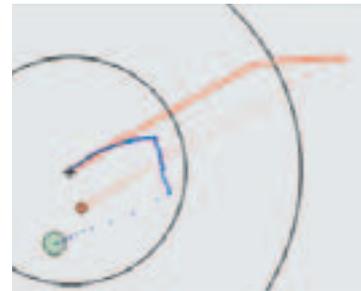




Desired response



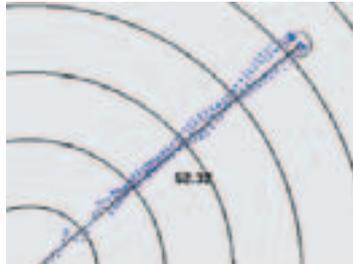
Excessive ground motion



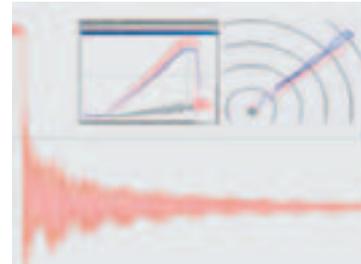
Distortion at ground level



Cracking in access panel



Excessive play in outreach or bracket



Dynamic testing

## Up to 5 year guarantee certificate

As proven by more than one million test results, Rei-Lux delivers remarkably accurate information about the stability of each column.

On the basis of those results, we offer up to five year guarantee on Rei-Lux tested and certified poles and columns.



## Cost savings

Besides benefits in safety, scheduling, preventive maintenance and public liability, Rei-Lux also delivers quantifiable financial benefits.

Rei-Lux testing avoids unnecessary replacement of certified pole and column structures for at least a five year period, and therefore our clients can make better use of the asset maintenance spend.

Rei-Lux testing of columns can provide valuable data to the asset owner on their remaining lifespan. Together these advantages can contribute significant annual savings to the asset maintenance budget.





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## Test procedure

The test procedure commences with the input of key parameters of the pole or column to be tested in a special computer program conforming to AS/NZS 1170 standards.

Rei-Lux test equipment is then attached to the column and anchored with a strap at ground level.

Positioned virtually perpendicular, and mounted at 200 mm and 1800 mm above ground level, its lasers are aimed at a measuring point in a 3D camera positioned next to the column.

The test rig, using a hydraulically powered arm, delivers a progressive compressive force until the maximum pre-computed test load on the column is reached.

The camera records every response from the column in the form of laser deflections. Recorded in 3D, all measurements are available for later analysis and can even be viewed in slow motion. This information upon completion of the project forms part of our final report to the client.

## Benefits

The Rei-lux state-of-the-art testing procedure reveals potential weaknesses in the structure through a real-time graphic display which appears on the testing equipment's on board computer during actual testing.

Besides providing certainty about the stability of each measured structure the test results also contribute data to an effective maintenance program for the asset owner: Rei-lux can also provide the GPS coordinates of any column giving accurate location data of the assets.

Due to the testing equipment's mobility during information collection, traffic in a lot of cases will remain unaffected, reducing the need for traffic control plans.





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