BENKELMAN BEAM

1. PLATE LOADING TEST ACCORDING TO THE ASTM D1195 AND ASTM D1196M STANDARDS
2. FLEXIBLE PAVEMENT DEFLECTION TESTING ACCORDING TO THE ASTM D4695 STANDARD

The Benkelman Beam measures the deformation of a material under stress. This equipment is used for the two following tests :

- The plate test measures the static deformation EV1/EV2 (roads) and Westergard deformation (platforms). The Benkelman beam mesure the formation level bearing capacity by applying a load on the plate to the material with the loading device.
- Standard Benkelman Beam tests measures pavement deflection in response to a static load. Measurement is made by placing the tip of the beam between the dual tires of a loaded truck and measuring the pavement surface rebound as the truck is moved away.

MATERIAL

For the deflection test, the beam is used alone.
For the plate test, a loading device and aluminum plate are necessary.

BENKELMAN BEAM

High-end model
The Benkelman beam consists of a balance arm (in two parts) mounted on ball-bearing axis, a frame supported on the ground by three feet on height-adjustable ball-joints, with a digital dial indicator 10 mm to 0.01. The whole equipment is protected by a high resistance epoxy paint and delivered in a flight case.

- Beam weight: 11.5kg
- Overall length: 3m60
- Beam in storage: 29kg
- L x W x H: 200 x 300 x 300 mm

Eco model

- Beam weight: 8.5kg

ALUMINUM PLATE Ø 600 mm
With reinforced ribbed, side slit and handles for transportation.

MANUAL LOADING DEVICES

Hydraulic model
(Exists also with electrical pumps, see beside)

- Hydraulic jack, force 100 kN
- 203 mm Stroke with centering plate and pivot joint
- Hand pump with analogue manometer 90 kN and 3.0 m flexible hose
- Wooden transport carrying case
- Aluminum wedge

Mechanical model

- Reinforced mechanical jack, force 200 kN
- Dynamometer for control, graduation from 0 to 100 kN with loading stage
- Pivot joint
- Wooden transport carrying case



ALUMINUM PLATE Ø 600 mm



Benkelman beam



High-end model



Hydraulic loading device



Mechanical loading device

Description	Reference
High-end Benkelman beam in flight case	O2 203121720
Eco Benkelman beam in box	O2 203121702
Aluminum plate, diameter 600 mm	02 203121707
Manual hydraulic loading device	O2 203121760
Electrical hydraulic loading device	O2 203121770
Manual mechanical loading device	O2 203121710
OPTION Adjustable wedge	O2 203121715