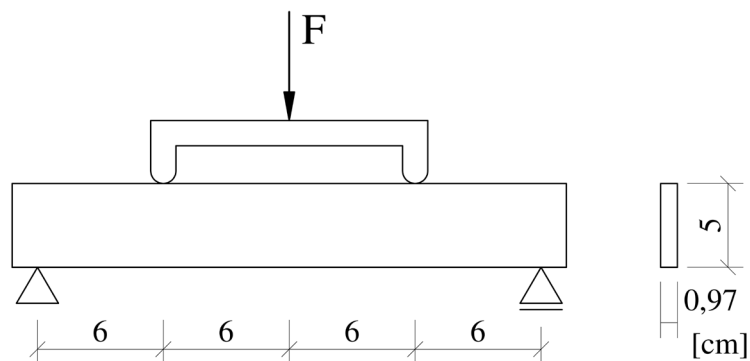


Scope		Photoelasticity – determination of the model constant			
Group		Team No.		Date	
Team members					
Comments					

1. Principle

A simply supported beam is loaded with two concentrated forces (4-point bending). The exercise consists in determining the model constant based on the measurement of the isochromes distribution at the height of the beam.

2. Test stand



3. Course of the exercise

- turn on the monochromatic light source,
- use the dynamometer to induce displacement d ($d < 4.283$ mm),
- calculate the value of the exciting force F using the table below,

d [mm]	0	0.394	0.798	1.210	1.631	2.059	2.493	2.934	3.379	3.829	4.283
F [N]	0	50	100	150	200	250	300	350	400	450	500

- determine the positions of isochromes,
- determine the position of the isochromes relative to the main axis of the beam cross-section,
- determine the theoretical difference in principal stresses for each isochrome position,
- determine the model constant.

Measurement and calculation results:

Isochrome number m	Isochrome position [mm]	The isochrome position relative to the main axis of the beam cross-section [mm]

Note: the report should show how the calculations were performed (equation, data substitution, result, units).