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Product Name :	**Product Code :**
Stress And Strain Analysis on A Thick-Walled Cylinder	TN212

Description :

Stress And Strain Analysis on A Thick-Walled Cylinder

Technical Specification :

Stress And Strain Analysis On A Thick-Walled Cylinder
The unit is perform the following experiments and investigations:

Learning Objectives / Experiments:
Measurement of elongations by strain gauges
Application of mohr’s circle for the triaxial stress state
Determination of the distribution of direct stress in
Radial, tangential and axial direction
Investigation of correlations between elongation, pressure and stress in the triaxial stress state
Supplied with;
Multi-channel measuring amplifier
PC1 Computer-System with 21" TFT-Monitor Win 10 engl.

Specifications:
Investigation of the stresses and strains in a thick-walled cylinder under internal pressure
Two-part cylinder with flat groove
Strain gauge application at various radial points in the groove and on the cylinder surface
Hermetically sealed hydraulic system, maintenance-free to generate pressure
Hydraulic system with hydraulic pump and manometer
With supplied measuring amplifier

Software for analyzing measured values in amplifier supplied

Technical Data:
Aluminium cylinder
Length: 300mm
Diameter: ø=140mm
Wall thickness: 50mm
Internal pressure: max. 7n/mm² (70bar)
Strain gauge application
11 strain gauges: half-bridges, 350 Ohm
Gauge factor: 2,00 ±1%
Supply voltage: 10V
Pressure gauge
0...100bar
Accuracy: class 1,0
Dimensions and Weight
Length x Width x Height: 700x350x330mm
Weight: 32kg
Multi-channel measuring amplifier
Learning Objectives / Experiments:
Amplification and display of signals from strain gauge measuring points
Processing of measured values on computer
Evaluation of stress and strain analysis experiments
Evaluation of experiments relating to forces

Specifications:
[1] multi-channel measuring amplifier for processing of strain gauge signals
[2] strain gauge connection in half or full bridge configuration
[3] strain gauge connection via 68-pin input port
[4] automatic tare of measured values
[5] processing of measured values directly in the measuring amplifier or using the supplied software on a PC
[6] integrated software for experimental units on stress and strain analysis
[7] software for data acquisition via USB under Windows 7, 8.1, 10 including PC1 Computer-System with 21" TFT-Monitor Win 10 engl.

Technical Data:
Amplifier
Number of input channels: 16
Strain gauge connection in half or full bridge configuration
Resistance: min. 350 ohm/strain gauge
Strain gauge supply voltage: ±5vdc
Input voltage: max. ±32mV
230V, 50Hz, 1 phase
230V, 60Hz, 1 phase; 120V, 60Hz, 1 phase
UL/CSA optional
Dimensions and Weight
Length x Width x Height: 230x200x120mm
Weight: 2kg.

Naugralabequipments

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