

## BOOK REVIEW

E. J. HEARN: *Brittle Lacquers for Strain Measurement*. Merrow Publishing Co. Ltd 1971. Cloth 14 × 21.5 cm, 62 pages, 26 illustrations.

The book is a short textbook for the users of brittle lacquer with a considerable amount of useful practical advises.

After a short introduction (Chapter 1), Chapter 2 deals with the preparation of the coating. In Chapter 3 the more commonly used types of lacquer are described. Chapter 4 describes the calibration and loading procedure and the effect of the coating thickness; Chapter 5 deals with the crack detection describing illumination and statiflux powder procedure to obtain good visibility of the cracks.

Chapter 6 describes special test procedures involving numerical evaluation of the stresses in the specimen, measurement of residual stresses, dynamic measurements, plastic strain analysis, micro-technique for very thin components and the combination of the stress-coat technique with three-dimensional photoelastic investigations.

In Chapter 7 advantages and disadvantages of the brittle lacquers are collected, while Chapter 8 gives a short summary of the variables which may have influence on the performance of brittle lacquers.

In an appendix some commonly known formulae of the relation between stress and strain components are collected.

The book seems to be a useful guide for carrying out experiments with brittle lacquer technique but there are only insufficient advises for the evaluation of the stress distribution from the crack patterns. It would have been very useful to show and compare typical crack patterns for different simple loading conditions (tension, torsion, shear etc.) and at least a brief discussion of the real possibility of the evaluation of the complete state of stress at the surface of the specimen.

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