Examples of Wear-reducing Measures in the Lime-stone Industry.
W. Berndgen, *Materialprüf.*, 9 (5) (1967) 207–209; 3 figs., 1 table, 2 refs.

Determination and Combating of Wear in Cement Making.
H. Peter, *Materialprüf.*, 9 (5) (1967) 209–211; 5 figs., 3 refs.

6. INSTRUMENTATION AND TESTING

6.1. Instrumentation

The Development of a High-pressure Remote-sensing Viscosimeter.
W. H. Speaker, *Lubrication Eng.*, *23* (6) (1967) 245–248; 4 figs., 9 refs.

Apparatus for Measurement of Friction and Adhesion at Ultrahigh Vacuum.
R. D. Brown and R. A. Burton, *Rev. Sci. Instr.*, *37* (12) (1966) 1699–1701.
For abstract see *Appl. Mech. Rev.*, *20* (7) (1967) 731.

The Design and Construction of a New Apparatus for Measuring the Vertical Forces Exerted in Walking: A Gait Machine.
J. Skorecki, *J. Strain Analysis*, *1* (5) (1966) 429–438.
For abstract see *Appl. Mech. Rev.*, *20* (9) (1967) 917.

6.2 Testing of materials

Methods of Tests for Hardness and Wear of Plastics.
J. J. Gouza, Chapter 7 in J. V. Schmitz (ed.), *Testing of Polymers*, Vol. 2, Interscience, New York, 1966; 50 pp., 42 figs., 20 tables, 69 refs.

Assessment of Friction and Wear of Friction Materials Based on Plastics.
I. F. Kanavets, L. D. Andrianova and A. P. Zuev, *Soviet Plastics (London)*, No. 12, 1966; 7 figs., 3 tables, 13 refs.
Translated from the Russian journal No. 12, 1965.
A simple laboratory disc apparatus is proposed for rapid assessment of the quality of friction materials, and gives test results comparable with full-scale for average conditions of operation of a friction couple. The main feature of the proposed machine is that by the regulation of the temperature of the friction discs it becomes possible to alter the volume temperature and effect alteration of the contact temperature on the surface of friction over a wide range. In addition it becomes possible to carry out tests of specimens cut from brake shoes, to assess the temperature on the surface of friction and to measure the wear from the reduction in the height of the specimens during the course of the test.

Evaluating Adhesives for Hydrofoils.
A. F. Lehman and W. B. Trepel, *Mater. Res. Stds.*, *7* (9) (1967) 383–389; 10 figs., 9 tables, 11 refs.
This program evaluated a wide range of adhesives for bonding different overlay materials to various substrates in an effort to find a combination applicable to hydrofoils operating at speeds to 90 knots. Specimens appearing most promising in standard laboratory tests were tested as hydrofoil units in a water tunnel and on a rotating arm. The water tunnel tests afforded excellent visual observation (through stroboscopic illumination) of the test foil moving at 90-knots, while the rotating arm phase permitted longer runs at lower costs. Of the specimens evaluated, it appears likely that the use of Stellite 6B bonded with either FM 1000 or EC 2186 adhesive will be satisfactory. Of the flexible overlay materials, the erosion-resistant neoprenes bonded by EC 1836 appear most promising.

6.3. Testing of machine parts

Rig for Testing and Developing Large Turbine-generator Bearings.
S. Duffin and W. H. Gibson, *Engineer*, *222* (5783) (Nov. 1966) 785–789.
For abstract see *Appl. Mech. Rev.*, *20* (8) (1967) 826.

Correlation of the Pitting Fatigue Life of Bearings with Rolling-contact Rig Data.
J. Morrow, *J. Basic Eng. Trans. ASME, Ser. D*, *88* (3) (1966) 583–588.
For abstract see *Appl. Mech. Rev.*, *20* (5) (1967) 539.

Evaluation of High-temperature Bearings Cage Materials.
E. V. Zaretsky and W. J. Anderson, *Space Admin. Tech. Note D-3821*, Jan. 1967, 15 pp.
A cage compatibility tester was used to determine the relative wear characteristics of six cage materials with four lubricants of practical interest. Test conditions were ambient temperatures of 500° and 700°F, a shaft speed of 1200 r.p.m., and test durations of from 30 to 120 min. Measurements of the wear scar in the cage pocket were used to determine the effect of cage material, temperature, lubricant, and material hardness on cage wear.
For the temperature range of 500° to 700°F, S-Monel and M-1 materials gave the least wear. Additionally, at 500°F, 440 C (modified) stainless steel and a polyimide polymer indicated low wear.