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**Committee D11 on Rubber
Subcommittee D11.23 on Synthetic Rubbers**

Research Report D11-1068

**Interlaboratory Study to Establish Precision Statements for ASTM
D3188, Test for Rubber—Evaluation of IIR (Isobutene-Isoprene
Rubber)**

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COMMITTEE D11.23 ON SYNTHETIC RUBBER

RR: D11 -

PRECISION STUDY ON D3188 - 91, STANDARD TEST METHODS FOR RUBBER - EVALUATION OF IIR (ISOBUTENE-ISOPRENE RUBBER)

INTRODUCTION

1. AN INTERLABORATORY STUDY WAS RUN TO ESTABLISH THE PRECISION OF THE D3188-91 TEST METHODS. SAMPLES OF VARIOUS IIR'S WERE SENT TO VARIOUS LABORATORIES FOR MIXING AND TESTING.

A. TEST METHOD

1. 3 SAMPLES OF IIR WERE TESTED IN EACH LABORATORY, ONCE ON EACH OF 3 DIFFERENT DAYS. EACH SINGLE TEST WAS REPORTED AS A TEST RESULT. THE SAMPLES WERE MIXED BY THE PARTICIPATING LABORATORIES AND TESTED USING OSCILLATING DISC CURE METERS.

B. LIST OF PARTICIPATING LABORATORIES

1. COOPER TIRE AND RUBBER CO. - C.HARMON
2. EXXON - L.GURSKY
3. GOODYEAR TIRE AND RUBBER CO. - R.TAYLOR
4. POLYSAR SARNIA, ONTARIO - J.PUGSLEY

C. TEST PROGRAM INSTRUCTIONS

1. SAMPLES OF 3 DIFFERENT IIR'S AS WELL AS ALL COMPOUNDING INGREDIENTS PER THE D3188 SECTION 4 TEST FORMULA WERE DISTRIBUTED TO THE PARTICIPATING LABORATORIES.
2. SAMPLES WERE MIXED USING D3188 SECTION 6.2.
3. THE RESULTING COMPOUNDS WERE TESTED ONCE ON EACH OF 3 DAYS (SHORT TERM PRECISION) FOR THE CURE PROPERTIES OF M_{th} , M_c , t_{90} , t_{50} , AND t_{90} .

D. IIR SAMPLES

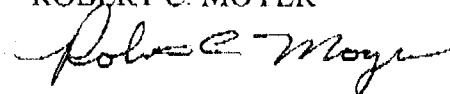
1. A = LOW MOONEY / LOW UNSATURATION
2. B = HIGH MOONEY / HIGH UNSATURATION

- 3. C = LOW MOONEY / HIGH UNSATURATION
- E. DATA REPORT FORMS (ATTACHED)
- F. STATISTICAL DATA SUMMARY (ATTACHED) (TABLE 1)

G. SUMMARY

THE ABOVE TEST PROGRAM WAS COMPLETED WITH ONLY 4 PARTICIPATING LABORATORIES. RESULTS SHOULD BE VIEWED IN THIS CONTEXT.

ROBERT C. MOYER



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