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1164

H-46

UNCLASSIFIED 3-3

MAY 1 2 1952

Ref. Symbol: 1531
Project No. ET-573

MR. P. E. JOCKLE - 1281

Re: Test of Rubber Compounds, Numbered X-489 and X-632, Manufactured by E. W. Conrad & Company, P.O. Box 276, Arlington Heights, Illinois

H-46

Object of Test

The object of this test was to determine whether rubber X-489 would be an adequate substitute for X-632.

Function of Object Tested

This rubber is used for oil seals in shock absorbers of roadable containers.

Authorization for Test

This test was requested by Division 1281 in a Work Order Authorization dated December 26, 1951. Mr. A. B. Cole was the consultant.

Summary of Results

For its intended use, it is believed that X-489 rubber will make an adequate substitute for X-632 rubber.

BB.
FILE No. H 46
3-2

Procedure

A. Test Conditions:

Two circular rubber samples about 8 inches in diameter and 0.070 inch thick were received for testing. They were numbered X-489 and X-632. The samples were cut into pieces for the various tests. The samples for the bend test were cooled to -65°F and bent sharply back and forth 20 times. Others were used for load versus deflection tests.

Some of the samples were compressed 50 per cent and held at +158°F for 72 hours. Some were used for tensile tests and part of these were coated with grease or hydrocarbon a week prior to the test. It was also desired to test the samples for tensile strength when they were glued to steel. However, the glues provided failed to harden, and this portion of the test was suspended.

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TCG-WNT-1

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MR. P. E. JOCKLE - 1281 -2- Ref. Symbol: 1531
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B. Equipment Used:

Baldwin-Southwark universal testing machine (5000 lbs)
Grieve-Hendry 1650-watt oven
Deepfreeze

Results

Specimens from both samples withstood the bend test without apparent damage.

The load versus deflection curves are shown in Fig. 1. To cause a deflection of 0.035 inch, sample X-632 required a load of 1100 pounds, while sample X-489 required a load of 1000 pounds.

During the ambient tensile tests, the samples broke at the following loads (psi):

	Sample X-489	Sample X-632
Plain rubber	1104	1568
With grease	1059	1584
With hydrocarbon	572	612

H. G. Page

Test Conducted by H. G. PAGE - 1531

Original Signed By
R. L. WAGAR

Approved by R. L. WAGAR - 1531

HGP:nj

Encl: Fig. 1

Copy to:
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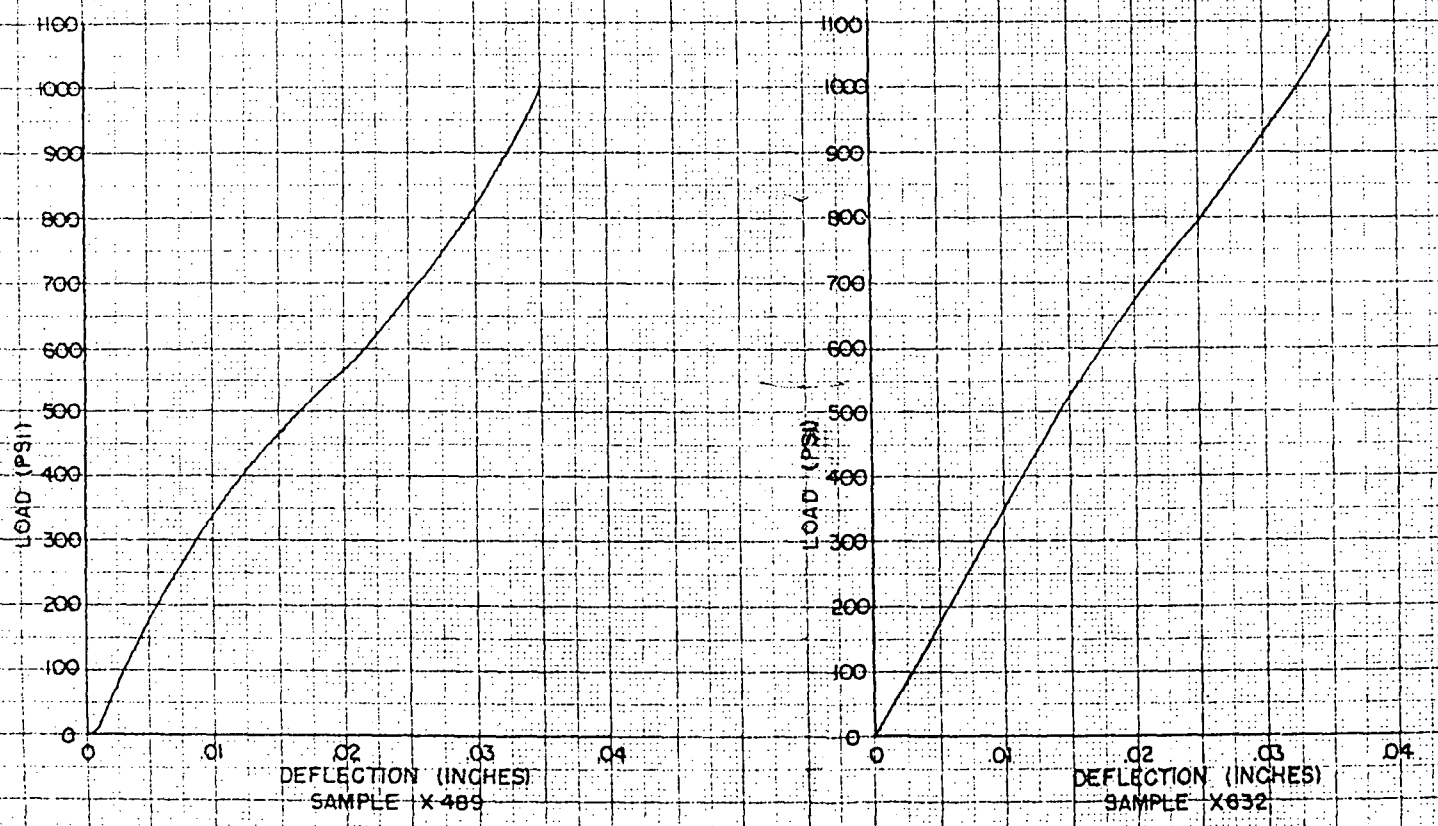

FIG. 1 — COMPARATIVE TESTS OF RUBBER COMPOUNDS

ET-573
REF SYM. 1531
3-3-52 JVF

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