

14 June 1949

MEMORANDUM NO. 353-49

To: Files

Subj: Lecture on Gaskets at Naval Ordnance Laboratory, White
Ordnance on 2 June 1949

1. Mr. F.C. Thorn, Director of Research for the Garlock Gasketing Company, gave an interesting lecture on the applications of Rubber, Fibrous, & Semi-Metallic Gaskets. Samples of a number of kinds of gaskets and gasket materials were on display.
2. Mr. Thorn stated that rubber gaskets were satisfactory for temperatures up to 200°F, and that asbestos sheet packing with rubber binder was satisfactory for temperatures up to 300°F. He emphasized that these were the temperatures of the gaskets in the flange, and that fluid temperatures considerably greater could be safely used. This must result from the cooling effect of the flanges.
3. Mr. Thorn showed, by graphs, the great importance of the relaxation properties of the gasket material, and claimed that our specifications omit one of the most important factors when they do not include suitable values for this property. He admitted that this important property had been difficult to measure in the past, but exhibited a small instrument that held promise of providing the needed data. The device provides means of supplying air pressure to a sample under compression. The length of time the air pressure is held at a given compression indicates the relaxation properties of the material under test. Mr. Thorn said that consistent repeatable results can be obtained with the instrument as now developed, but that further improvements were being studied.
4. Relaxation consists of two actions - a direct vertical change and a horizontal change, the horizontal change being considerably more with rubber-like materials. Unless flanges are very stiff, Mr. Thorn considers that full-face gaskets are superior to "Ring" gaskets. (This does not apply to tongue & groove joints). In response to my question, Mr. Thorn said that the effect of grooving the flange faces depended upon the gasket material. A "honeycomb" finish reduced the relaxation from around 35% to about 7% in the case of a rubber-like material. The grooves were considered as restraining side-flow. On the contrary,

Prepared by H. A. Miller - Ext. 5501

Typed by H. Wolfe - 6/14/49

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To: Mr. C. L. C. C.
Naval Engineering Experiment Station
Annapolis, Maryland

Subj: Packing and Gasket Material for Various
Services - Telephoned of.

Ref: (a) The Anchor Packing Co. letter of 12 July
to Bureau.
(b) Johns Manville letter of 15 July to The
Rubber Manufacturers Association.
(c) Detroit Gasket Manufacturing Co. letter of
13 July to the R.M.A.
(d) United States Rubber Co. letter of 15 July
to R.M.A.
(e) The Gasklok Packing Co. letter of 8 July to
R.M.A.
(f) R.M.A. letter of 5 August to Bushings.
(g) Pilot Packing Co. letter to R.M.A.
(h) Bushings letter JF35-1)(CWB-559) of 11 Aug.
1945.

Encl: (17)
(A) One copy of reference (a).
(B) One copy of reference (b).
(C) One copy of reference (c).
(D) One copy of reference (d).
(E) One copy of reference (e).
(F) One copy of reference (f).
(G) One copy of reference (g).

1. Enclosures (A) through (G) are forwarded herewith
in connection with reference (h).

CC:

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Prepared by M. Malamut - Ext. 2325
Typed by E. J. Rishkowski - 8/26/48

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