PLAINTIFF'S EXHIBIT 117

MINUTES
of the
TECHNICAL & RESEARCH COMMITTEE MEETING
Molded Section
NATIONAL INSULATION MANUFACTURERS ASSOCIATION
New York, N. Y. October 28, 1959

Chairman E. C. Shuman called the meeting to order at 9:30 A. M. with the following in attendance:

MEMBERS

E. C. Shuman, Chairman	Owens-Corning Fiberglas Corp.
L. L. Collonge	Mundet Cork Corp.
M. E. DeReus	Union Asbestos & Rubber Co.
C. E. Ernst	Johns-Manville Sales Corp.
H. P. Hoopes	Fibreboard Paper Products Corp.
W. R. Seipt	Keasbey & Mattison Company
U. W. Smith	Baldwin-Ehret-Hill, Inc.
T. J. Walters	The Ruberoid Company

OTHERS PRESENT

D. A. Davis	The Ruberoid Company
J. W. Cordrey	Fibreboard Paper Products Co.
J. Baer	Sumner Rider & Assoc.
O. Shaftel	Sumner Rider & Assoc.
R. C. Parlett	National Insulation Mfrs. Assn.
J. M. Barnhart	National Insulation Mfrs. Assn.

CLARIFICATION OF LOWER TEMPERATURE LIMIT TO BE USED BY NIMA FOR PUBLICATION PURPOSES

Discussion on this subject resulted in unanimous opinion of the Sub-Committee - that:

1. No lower temperature limit should be specified, but that an expression such as "for use up to 1900 F" should be used.

2. All low temperature applications for the type of mineral products manufactured by the Association membership, as well as the high temperature applications, should be included.

3. This subject should be referred back to the Executive Committee for final decision.

ROUND ROBIN THERMAL CONDUCTIVITY QUESTIONNAIRE

It was reported that 11 replies to the Questionnaire had been received by the Association office and that all were in favor of calibrating their conductivity equipment.

It was recommended that a special committee be formed for the purpose of determining how this program should be conducted. The special committee will consist of the 3 T & R Sub-committee Chairmen plus other representatives of NIMA membership that are responsible for testing methods within their own company.

REVISIONS TO TABLE I, CHAPTER 32, ASHRAE "GUIDE"

With respect to Table I, the following recommendations were made:

1. Include "Design Values for Mean Temperature Indicated" in the sub-title.

2. Use 50 F and 75 F for the mean temperatures for "k" values, rather than the 40 F and 70 F now used.

3. Inasmuch as the values that appear in the "Blocks & Boards" and "Pipe Insulation" categories are repetitious it was the consensus that they be combined.

4. Under "Blocks & Boards", "Molded Amosite & Binder", the temperature limit was not changed, the density was changed to 15 - 18 lb/cu ft, the "k" values were changed to 0.32 at 100 F, 0.37 at 200 F, 0.42 at 300 F, 0.52 at 500 F and 0.62 at 700 F.

   The "Pipe Insulation" values were changed to read the same as the values for the "Blocks & Boards".

5. Under "Blocks & Boards", "Calcium Silicate", the temperature limit was changed to 11 - 12 lb/cu ft, and the "k" values were changed to 0.32 at 100 F, 0.37 at 200 F, 0.42 at 300 F, 0.51 at 500 F and 0.61 at 700 F.

   The "Pipe Insulation" values were changed to agree with the values for the "Blocks & Boards".

6. (a) Under "Blocks & Boards", "Diatomaceous Silica" (1500 F material) the temperature limit was changed to 1600 F, the density was not changed, and the "k" values were changed to 0.66 at 500 F, 0.70 at 700 F and 0.74 at 900 F.

REVISIONS TO TABLE I, CHAPTER 32, ASHRAE "GUIDE" (cont'd.)

The "Pipe Insulation" values were changed to agree with the values for the "Blocks & Boards".

(b) Under "Blocks & Boards", "Diatomaceous Silica" (1900 F material) the temperature limit and density were not changed, and the "k" values were changed to 0.71 at 500 F, 0.75 at 700 F and 0.80 at 900 F.

The "Pipe Insulation" values were changed to agree with the values for the "Blocks & Boards".

7. Under "Blocks & Boards", "85% Magnesia", the temperature limit was not changed, the density was changed to 11 - 12 lb/cu ft, and the "k" value at the mean temperature of 500 F was deleted.

The "Pipe Insulation" values were changed to agree with the values for the "Blocks & Boards".

BASIS OF CALCULATING HEAT LOSSES

It was agreed that it was a desirable objective of NIMA to be able to calculate heat losses on a common basis.

It was suggested that each member company, when the occasion arose to reprint their literature, to include a suitable footnote cautioning the user to recognize that using surface temperature as a criteria for thickness was not the correct method of approach, and to point out that the published surface temperature values can vary as to shape, surface roughness and velocity, etc. Messrs. Barn hart and Parlett will draft a suitable footnote for use and circulate it to the Committee for approval.

The Committee recommends to the Board of Directors that specifying insulation by surface temperatures be deemphasized and that the economic approach to the selection of thickness of insulation be emphasized.

FEDERAL SPECIFICATION HH-I-554

Mr. Barnhart reported that he had received a letter from the General Services Administration advising that the NIMA comments had been received and that a revision to this specification was being undertaken. The revision will be ready for comment during the last quarter of 1959.

MILITARY SPECIFICATION MIL-I-2819A

It was reported that many manufacturers are unable to supply materials conforming to this specification dated August 13, 1959. The Association will write to the government agency objecting to the specification offering suggested changes.

MILITARY SPECIFICATION MIL-I-2781C

Mr. Barnhart was requested to determine the status of this specification.

ESTABLISHMENT OF STANDARD O. D's OF PIPE INSULATION

It was agreed that the establishment of O. D. for pipe insulation should be established as per Mr. E. C. Shuman's letter of October 14, 1959, a copy of which was circulated to the Committee members.

Mr. Shuman will circulate the Table that appears in MIL-I-2781 that pertains to these standard pipe sizes for approval.

PREFABRICATED PANELS

A ;etter from Mr. K. W. Hartwell of the Detroit Edison Company pertaining to the manufacture of prefabricated panels for use on boilers was read and discussed, and it was concluded that this subject was no the manufacturers problem but a field engineering problem.

CORPS OF ENGINEERS SPEC. 301.21

A letter was read from the Heat Transmission Conduit Company pertaining to the problems presented under this specification.

The consensus was that the specification should not be issued. A copy of the specification will be circulated for comments, and a letter written to the Corps of Engineers protesting the issuance of the specification.

OTHER BUSINESS

Mr. W. R. Seipt requested that each manufacturer send a carton of 36 x 6 x 1-1/2 blocks to him for impact testing for ASTM C-16, Sub-committee S-1 work.

ADJOURNMENT

There being no further business, the meeting was adjourned.

Respectfully submitted

J. M. Barnhart