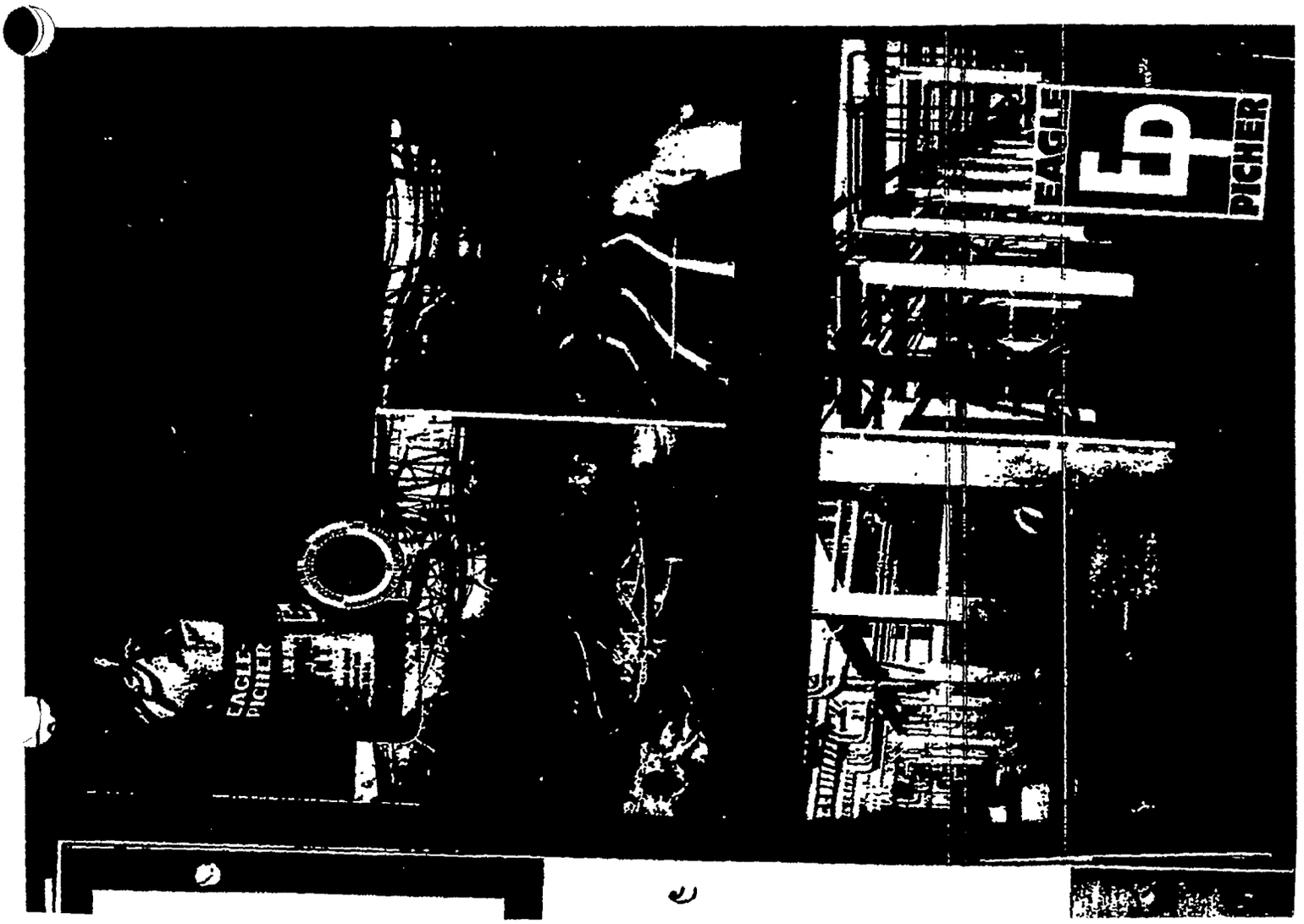
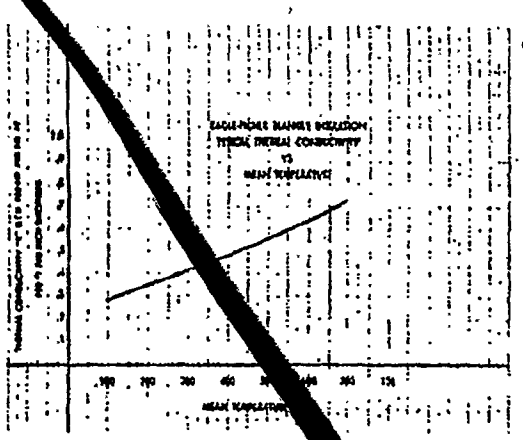
PLAINTIFF'S
EXHIBIT
Y-82

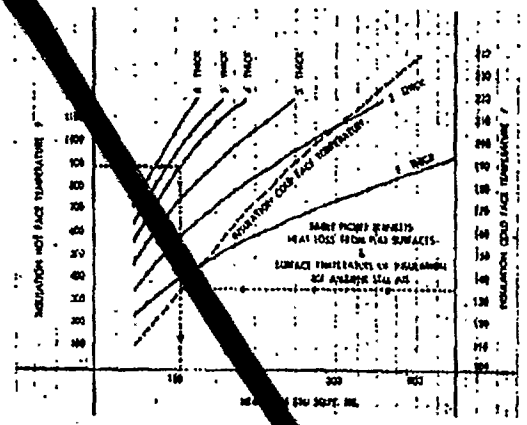




EAGLE-PICHER BLANKET INSULATION CONDUCTIVITY MEAN TEMPERATURE PLOT

HEAT LOSS CHART (Below)
To Use Chart

From Insulation Hot Face Temperature (900 F) read across to Thickness Curve (4 in.). From point of intersection read down to Heat Loss (108 BTU). For Cold Face Temperature read up from Heat Loss (108 BTU) to Insulation Cold Face Temperature Curve. From point of intersection read across to Insulation Cold Face Temperature (136 F).



STANDARD STYLES*

Style No.	Fabric Used
200	1 in. wire mesh on both sides
200-A	Stucco lath on both sides
202-B	1 in. wire mesh and stucco lath
201	Stucco lath and expanded lath
201-A	1 in. wire mesh and expanded lath
202	Expanded lath on both sides
203	Stucco lath and $\frac{3}{8}$ in. rib lath
203-A	Same as No. 203, except rib turned out
203-B	1 in. wire mesh and $\frac{3}{8}$ in. rib lath
203-C	Same as No. 203-B, except rib turned out
204	Expanded lath and $\frac{3}{8}$ in. rib lath
204-A	Same as No. 204, except rib turned out
205	Stucco lath and $\frac{1}{4}$ in. rib lath
205-A	Same as No. 205, except rib turned out
206	Expanded lath and $\frac{1}{4}$ in. rib lath
206-A	Same as No. 206, except rib turned out
207	$\frac{3}{8}$ in. rib lath on both sides
207-A	Same as No. 207, except rib turned out on one side
208	No. 12 mesh fly-screen on both sides

*Special Styles available at slightly higher cost.

PHYSICAL PROPERTIES

Service Temperature	Up to 1200 F
Moisture Absorption	Less than 1% by weight at 120 F and 100% RH for 96 hrs.
Fire Resistance	Incombustible
Corrosion to steel	Does not cause or accelerate

Standard Sizes

Length	48 in. and 96 in.
Width	24 in.
Thickness	1 in. to 8 in. in $\frac{1}{2}$ in. increments

Packages — Paper Cartons

Net Weight per package (Varies with Style and Thickness) .166-304 lb.

Thermal Conductivity (k) in BTU per in. per sq ft per hr per °F at mean temperature of

100 F	0.39
300 F	.42
500 F	.57
700 F	.74

RECOMMENDED THICKNESSES AT VARIOUS TEMPERATURES

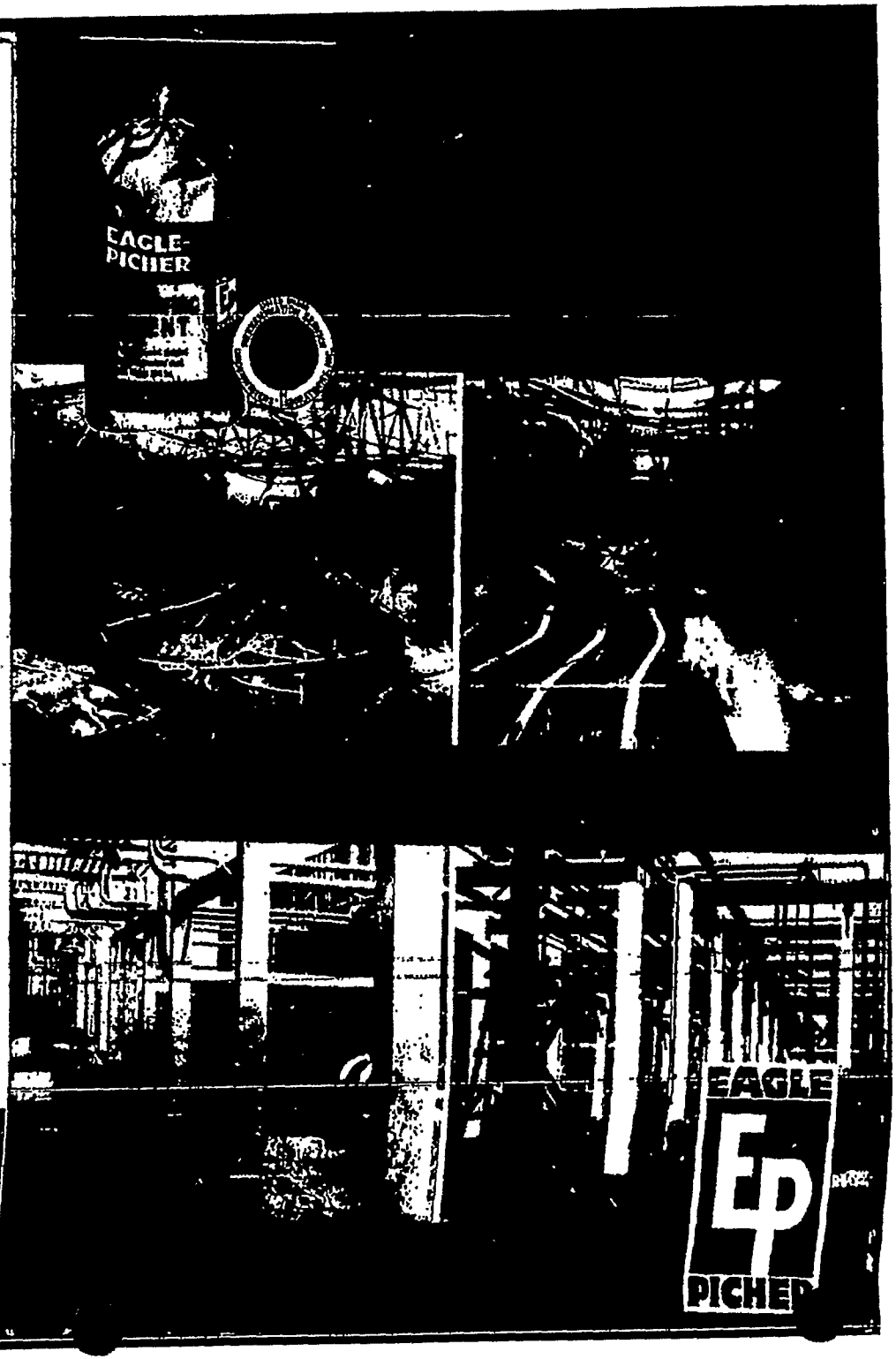
Temperature	Thickness
100 300 F	1 in.
301 500 F	1½ in.
501 700 F	2 in.
701 900 F	2½ in.
901 1100 F	3 in.
1101 1300 F	3½ in.

EP

THE EAGLE-PICHER SALES COMPANY

American Building · · · Cincinnati 1, Ohio

Printed in U. S. A.



EAGLE PICHER

THE EAGLE-PICHER FIREPROOFING CEMENT TREATMENT CUTS FIRE LOSS

EAGLE-PICHER FIREPROOFING CEMENT

Plant safety directors and engineers have long realized the importance of protecting structural steel columns, supporting members, skirts, equipment bases, tower and tank supports, and similar equipment against the ravages of industrial fires. Plants erected with only limited structural fire protection can now be economically fireproofed with effective, easy-to-apply Eagle-Picher Fireproofing Cement.

Eagle-Picher Fireproofing Cement is a dry mixture of fibers, aggregates and binding agents. When mixed with clean, fresh water at the recommended ratio, it is economically applied to surfaces which require protection.

RESISTS CORROSION

Patented rust inhibitors are incorporated in Eagle-Picher Fireproofing Cement, thus affording valuable PLUS protection against rust and corrosion where the material contacts structural members.

SIMPLE TO APPLY

Eagle-Picher Fireproofing Cement is easily applied by trowel, like most insulating or finishing cements; and it is applied to the desired thickness in *only one operation*. When the fireproofing treatment is exposed to weathering, bumping, abrasion, fumes, vibration, or other abnormal conditions, a protective finish is recommended.

Where a pressure-water fire control system is used, the Fireproofing Cement should be covered with either metal jackets or a finishing cement designed for such a use. When a semi-viscous asphalt base material such as Eagle-Picher Insulseal is used as a finishing treatment, it is advisable to flash the weatherproofing where the finishing cement contacts metal. Eagle-Picher Stalastic is an ideal flashing material for such an application.

HAS HIGH COVERAGE

Eagle-Picher Fireproofing Cement has the high dry coverage of approximately 30 sq. ft. 1 inch thick per 100 lb. Its extreme lightness-in-weight means installation economy to you and signifies more surface coverage per pound.

SETS QUICKLY

The quick setting properties of Fireproofing Cement permit the application of subsequent finishing materials after only a 24-hour period. This represents a savings in both time and money.





EASILY INSTALLED AT MINIMUM COST

Comparing estimated costs of the Eagle-Picher Fireproofing Cement treatment with other acceptable fireproofing methods, 1¼" Eagle-Picher Fireproofing Cement, covered with ¼" protective finish, results in an average savings of 30% for comparable protection . . . a welcome economy. Effects a real savings in weight, too. While affording positive fire protection, it adds only a minimum of weight.

SPECIFIC DATA

Water Ratio—11 gal. clean, fresh water to 100 lbs. dry cement

Dry Coverage—30 sq. ft. 1" thick per 100 lbs.

Weight (Applied and Dried)—Approximately 3½ lbs./sq. ft. 1" thick

Thermal Conductivity—1.10 Btu. @ 600 F Mean Temperature

Compressive Strength—175 to 200 lbs./sq. in.

Adhesive Strength—7.0 lbs./sq. in.

Setting Time—24 hours

NOTE: Fireproofing Cement must be applied within 4 hours after mixing with water.

EASY TO PAINT

Eagle-Picher Fireproofing Cement, covered with a black homogeneous weatherproofing compound like Eagle-Picher Insulseal, may be painted with an asphalt base aluminum paint such as Eagle-Picher Paint number 830.

PACKAGES: Eagle-Picher Fireproofing Cement is packed in multi-wall, paper bags having a net weight of 100 lbs.

1¼" Eagle-Picher Fireproofing Cement vs. Other Methods

Positive proof of the appreciable savings on your *Industrial Fireproofing* and construction cost. For tall steel structural members, the weight saving may permit use of smaller steel columns.

Standard Wide Flange Beams and Columns	Weight Per Linear Foot (lbs.)*		Linear Feet Covered Per Cubic Yard	
	E-P Fireproofing Treatment	Present Methods	E-P Fireproofing Treatment	Present Methods
18 x 11¾	34.2	326	33.5	12.4
18 x 11½	32	285	36	14.1
12	30.5	276	37.6	14.8
10	26.8	214	43.5	18.9
10	24.4	156	47.3	25
8 x 8	21	139	54.2	31

*Weight figures are based on 1¼" Eagle-Picher Fireproofing Cement and 3" formed concrete (1:2:4, mix @ 150 #/cu. ft. density), using standard methods of application for both.

RESULTS OF FIRE TESTS ON UNPROTECTED COLUMNS

Time-to-failure of Unprotected Steel Columns ranges from 11 to 21 minutes.

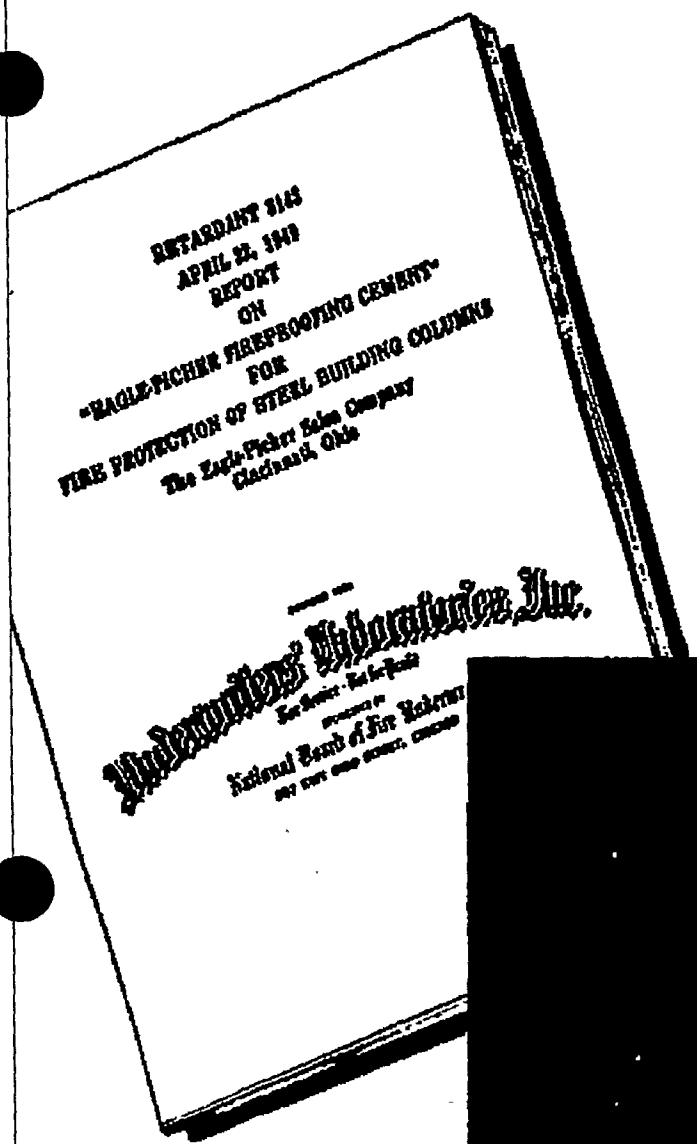
Reference: Fire Tests of Building Columns[1]

Type	Nominal Area Sq. In.	Slenderness Ratio (l/r)	Unit Load Lb./Sq. Inch	Time to Failure Hrs. — Min.
Plate and Angle	13.00	111.6	8900	0—19½
Z-bar and Plate	9.31	81.7	11250	0—14½
I-beam and Channel	10.11	78.1	11850	0—17
Round Cast Iron	14.75	66.2	6300	0—24½
Steel Pipe (Concrete filled)	Concrete 38.74 Steel 6.93	63.9	5140	0—26

[1]By The National Board of Fire Underwriters
Associated Factory Mutual Fire Insurance Companies
Bureau of Standards, Department of Commerce

0473

0474

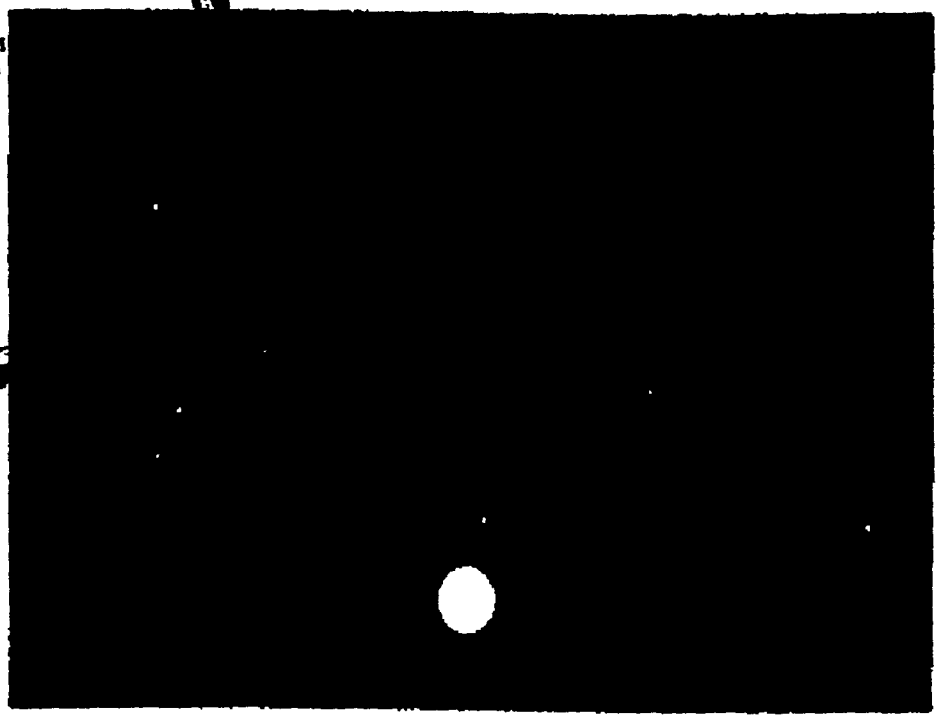


A copy of the Underwriters' Laboratories, Inc., report can be secured by writing to the Industrial Insulation Division, The Eagle-Picher Company, American Building, Cincinnati 1, Ohio.

RECOMMENDED THICKNESSES

Thickness of Fireproofing Cement	Approximate Fire Resistance Rating
1"	2 hours
1¾"	3 "
2½"	4 "

Eagle-Picher Fireproofing Cement, 1¾" thick, provides 3 hour protection, as revealed in Underwriters' Laboratories report R 3143, covering a full scale column test made according to ASTM Standard E-119. Subscribers to Underwriters' Laboratories may refer to Guide No. 540 10, April 22, 1949, File R-3143.



For positive fireproofing economy, investigate the Eagle-Picher Cement treatment. Each job is individually engineered by the Eagle-Picher Industrial Insulation Department. Don't take chances! An industrial fire can happen at any time. Savings in your insurance premiums soon amortize the investment.

An experienced Eagle-Picher Sales Engineer will gladly make a free survey of your plant's fireproofing needs. Simply contact your Eagle-Picher Jobber, Distributor, or Contractor . . . . or write direct to any of the various Eagle-Picher Industrial Insulation offices listed at the bottom of this page.

THE EAGLE-PICHER SALES COMPANY

American Building . . . . Cincinnati 1, Ohio