



UNITED STATES DISTRICT COURT FOR THE
SOUTHERN DISTRICT OF ALABAMA
Southern Division

**CHARLES RIDLING and BETTY
RIDLING,**

Plaintiffs,

vs.

**ARMSTRONG WORLD INDUSTRIES,
INC., et al.,**

Defendants.

CIVIL ACTION NO.:

CV 84-1198-X

ANSWERS TO PLAINTIFFS' FIRST SET OF INTERROGATORIES

COMES NOW one of the defendants in the above case, Raymark Industries, Inc., and for answer to those interrogatories propounded to it by the plaintiffs, sets down and says the following with the express understanding that the interrogatories are being answered pursuant to the provisions set forth in the Alabama Rules of Civil Procedure and the law in Alabama and not by any instructions from the plaintiffs which may contradict or conflict with the rules of law.

1. John Kutzler, Controller and Assistant Secretary, Raymark Industries, Industrial Division of Raymark Industries, Inc., 100 Oakview Drive, Trumble, Connecticut 06611 has signed the interrogatory answers solely for the purpose of satisfying any verification requirements.

These interrogatory answers are based upon information developed through conversations with various present and former

Raymark personnel and the review of thousands of corporate documents. It is not possible to correlate specific answers to interrogatories and sources of information.

2. Raymark Industries, Inc. is a corporation which was incorporated under the laws of Connecticut with its principal place of business being located at 100 Oakview Drive, Trumble, Connecticut.

3. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence and it is vague and ambiguous in that the phrase "regularly conducted business" is capable of numerous interpretations. Without waiving the foregoing objections and subject thereto, Raymark has held a certificate of authority to do business in the State of Texas and has, on occasion, sold asbestos-containing textile products in the State of Alabama.

4. Raymark objects to this interrogatory because it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence and that the phrase "regularly conducted" is vague and ambiguous and capable of various interpretations. Furthermore, the date on which such a certificate of authority was obtained is a matter of public record and within the power of plaintiff to obtain.

5. Yes.

6. (a-c) On June 28, 1982, Raymark Industries, Inc., a wholly-owned subsidiary of Raymark Corporation, merged with and

acquired the assets of Raybestos-Manhattan, Inc. Raybestos-Manhattan, Inc., was incorporated on July 5, 1929 for the purpose of merging the Raybestos Company, Bridgeport, Connecticut; General Asbestos and Rubber Company, Charleston, South Carolina (then a subsidiary of the Raybestos Company); the Manhattan Rubber Manufacturing Company, Passaic, New Jersey; and United States Asbestos Company, Manheim, Pennsylvania. Both Raymark Industries, Inc. and Raymark Corporation are Connecticut corporations and were incorporated on April 30, 1982 and June 17, 1981 respectively; their corporate charters are a matter of public record and copies of the same can be obtained from the Secretary of the State of Connecticut upon request. Their corporate headquarters are now located at 100 Oakview Drive, Trumble, Connecticut.

5. (Typographical error) See response to 5 above.

6. (Typographical error) See response to 6 above.

7. No.

8. N/A.

9. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence and it is vague and ambiguous in that it fails to specify a particular, relevant product or time period. Without waiving the foregoing objections and subject thereto, Raymark has, on various occasions, manufactured and sold asbestos-containing textile products.

10. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence and it is vague and ambiguous because it fails to specify a particular, relevant product or time period. Without waiving the foregoing objections, and subject thereto, Raymark has never mined or milled raw asbestos fiber. However, in 1953, Raymark bought 400,000 shares of Cassiar Asbestos Corporation Ltd. That corporation owned the Clinton Mine, British Columbia. All of that stock was sold in 1980.

11. See response to 9 above.

12. Raymark objects to this interrogatory because it is overly broad and that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence and it is vague and ambiguous in that it fails to specify a particular, relevant product or time. Without waiving said objections and subject thereto Raymark states:

(a - h) See attached Rider A on specific product information.

13. Yes.

14. (a - c) Novatex's patents for cloth that can be used to cover thermal insulation are as follows: #3806572, issued April 23, 1974; #3453818, issued November 29, 1967; #3062697, issued November 6, 1962. Patton application #600929, filed August 31, 1976, is pending.

15. Yes.

16. (a - d) New treatments, formulas and processes have been developed by Raymark to minimize airborne dust generations. Raymark has pioneered in the development of dust control systems and continues to devote substantial resources for continuing improvements of such systems and the development of dust-free products and manufacturing processes. In 1975, it instituted a program for restructuring asbestos yarn and textile manufacturing operations. This four year, \$11,000,000.00 undertaking, financed by internally-generated funds, was based on expansion of Raymark's "wet process" system of manufacturing Novatex asbestos yarns, which operate within OSHA standards for airborne dust concentrations. Raymark is the only manufacturer of asbestos textiles in the United States utilizing a "wet process" system. It developed this system and the system is protected by patents and substantial additional proprietary knowledge. In addition, Raymark has worked closely with the environmental protection agency and the development of emission effluent regulations to eliminate the possibility of environmental contamination. Except as stated above, no substantive changes, alterations or modifications have been made to Raymark Products sold for use by insulation mechanics since the materials were first developed. Similarly, none of the asbestos textile products produced by Raymark were altered in

chemical composition since first being marketed; nor has Raymark conducted any recall campaigns, operations, programs, or activities in connection with the products that it assembled and manufactured. Raymark did, however, discontinue production of some asbestos textile products due to lack of sales and did develop non-asbestos textile products suitable as substitutes for asbestos textiles in some applications.

17. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence, it is vague and ambiguous in the term "participated" is undefined and capable of various interpretations, it fails to specify a particular, relevant product or time period and it is unduly burdensome and oppressive.

18. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence, it is vague and ambiguous in the term "preparation" is undefined and capable of various interpretations and it fails to refer to a particular, relevant Raymark asbestos-containing textile product.

19. The objections set forth in response to number 18 above are incorporated herein by reference.

20. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence, it is vague and ambiguous in the term "potential health hazards" is undefined and capable of various interpretations. Without waiving said objections and subject thereto, see Rider B attached.

21. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence, it is vague and ambiguous in the term "potential health hazards" is undefined and capable of various interpretations. Without waiving said objections and subject thereto, see Rider B attached.

22. See Rider B attached.

23. See Rider B attached.

24. Although Raymark cannot say that any specific changes were made a result of any specific tests, all changes made in the development of Raymark products have previously been set forth in response to interrogatory 10 above.

25. See response to 24 above.

26. Raymark objects to this interrogatory in that it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence and it is vague and ambiguous in that the phrase "potential health hazards" is undefined and capable of

various interpretations. Without waiving said objections, and subject thereto, all tests conducted by Raymark have previously been set forth in response to answer 20.

27. See response to 20.

28. Raymark objects to this interrogatory in that it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to discovery of admissible evidence and it is vague and ambiguous in that the phrase "potential health hazards" is undefined and capable of various interpretations.

29. Raymark objects to this interrogatory in that it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to discovery of admissible evidence and it is vague and ambiguous in that the phrase "potential health hazards" is undefined and capable of various interpretations.

30. See Rider C attached.

31. See Rider C attached.

32. Yes.

33. See Rider D attached.

34. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence, it is vague and ambiguous in that the phrase "claiming injury" and "using asbestos products" are undefined and capable of various interpretations and it is unduly

burdensome and oppressive. Without waiving the foregoing objections and subject thereto, Raymark first received a claim from a manufacturing plant employee for Asbestosis in 1933, carcinoma in 1950 and Mesothaleoma in 1962.

35. See response to 34 above.

36. No. However, from 1969 until 1974, Raymark manufactured certain asbestos products for Johns-Manville Corporation according to Johns-Manville's product specifications. This was done as part of Raymark's purchase of the Marshville, N. Carolina plant from Johns-Manville. In addition, some of the Raymark customers may have resold asbestos textile products purchased from Raymark, but Raymark has no record of any such re-sales. In addition, from the late 1940's or early 1950's Raymark's Manheim, Pennsylvania plant manufactured certain packaging products sold by Anchor Packing Company and shipped in Anchor Packing packaging. That arrangement terminated in 1981. Thereafter, Raymark's former North Charleston, South Carolina plant sold in June, 1982 manufactured similar products for Anchor Packing.

37. See response to 36 above.

38. Raymark objects to this interrogatory in that the phrase "indicate that asbestos fibers can be hazardous to the health of human beings" is vague and ambiguous and capable of various interpretations. Without waiving said objection, and subject thereto, for many years, Raymark has collected miscellaneous documents, journals, articles, and books pertaining to

the effects of asbestos upon human health. These materials have been gathered and maintained over the years by a number of individuals and are currently maintained by John H. Marsh, Director of Environmental and Government Affairs and by Raymark's Health and Safety Department.

Raymark subscribes to the following publications, most of which from time to time contain information or articles concerning asbestos: Archives of Environmental Health, Lancet, British Medical Journal, Annals of Occupational Hygiene, Occupational Health and Safety, Medical News Digest, British Journal of Industrial Medicine, Chest, Environmental Research, American Journal of Medicine, New England Journal of Medicine, Asbestos Journal of Occupational Medicine, Science, Toxic Material News, OSHA Compliance Letter, Federal Register, Environmental Health Letter, Occupational Health and Safety Letter, Environmental Issues, Occupational Hazards, National Safety News, American Industrial Hygiene Association Journal, Industrial Hygiene Digest, Journal of the Air Pollution Control Association, Environmental Science and Technology, Science News, Bureau of National Affairs Occupational Safety and Health Reporter, Environment, Environmental Health Letter, Water Pollution Control Federation, Business Insurance, Wall Street Journal, Pollution Engineering, and Bureau of National Affairs Chemical Regulations Reporter.

39. See response to 38.

40. Yes.

41. (a) Starnes & Atchison, Lawyers, One Daniel Plaza, Daniel Building, Birmingham, Alabama 35233.
- (b) Upon advice of counsel, defendant objects to this interrogatory in that the information requested is privileged and/or part of the attorney's work product.
- (c) Not as yet.
- (d) N/A.
42. Yes.
43. (a - c) Raymark has performed studies at the below listed customer locations to determine the extent of airborne concentrations of asbestos fiber during their use. Installation or fabrication of its textile asbestos products; Detyens Ship Yard, Mt. Pleasant, S. Carolina (April 8, 1975)(cloth); North Brothers, Inc., (National Service Industries), Atlanta, Georgia (August 13, 1975)(cloth); A-Best, Corporation, Cleveland, Ohio (November 11, 1975)(safety clothing); C.D. Genter Company, Chattanooga, Tennessee, (February 25, 1976)(gloves); W.E. Palmer Company, South Boston, Massachusetts, (November 8, 1976)(curtains); Abney Mills Company, Greenville, South Carolina (January 20, 1976)(papermaker's felts); Hoechst Fiber Company, Spartanburg, South Carolina, (September 29, 1976)(weaving cloth); Westinghouse Electric Company, Hampton, South Carolina, (March 9, 1976), W.E. Palmer, Boston, Massachusetts, (December, 1978)(curtains);

Frommelt Industries, Debuque, Iowa, (March, 1979) (cloth); Lanco Industries, Jackson, Missouri (March, 1979)(cloth).

These tests were performed principally under the direction of Patrick Cooper, Manager of Environmental Services, Raybestos-Manhattan Industrial Products Company, North Charleston, S. Carolina (1975 and 1976 tests) and John O. Pierson, Raymark's corporate industrial hygienist (1978 and 1979 tests). In each of these tests, the fiber counts recorded were below prescribed limits. In no case which Raymark has conducted dust counts in areas involving the use of Raymark materials sold for use by insulation mechanics has there been any indication that allowable airborne fiber concentrations in effect at the time of such tests have ever been exceeded.

44. Raymark manufactured asbestos textile products at the following locations: North Charleston, S. Carolina (1929 - 1982); Marshville, N. Carolina (since acquisition from Johns-Manville in October of 1969); and Manheim, Pennsylvania (since 1929). To the extent of this interrogatory seeks additional information, it is objected to because it is overly broad, seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence, and it is unduly burdensome and oppressive.

45. Raymark from time to time advertised its asbestos-containing products.

46. Raymark objects to this interrogatory in that it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence, it is vague and ambiguous in that it fails to specify a particular, relevant product or time period and it unduly burdensome and oppressive. Without waiving said objection and subject thereto, see Rider E.

47. Raymark objects to this interrogatory in that it seeks irrelevant information not reasonably calculated to lead to the discovery of admissible evidence and it is overly broad in that it fails to specify a particular, relevant product. Without waiving said objection and subject thereto, see Rider F.

48. See response to 47 above.

49. Yes.

50. Pursuant to OSHA's asbestos products standards issued in June, 1972, Raymark began placing, in July of 1972, warning labels on its products. Since approximately 1974, warning labels have been placed on all Raymark products containing asbestos which are not encapsulated and certain other products. The warning is located on the outside of the package and states: "CAUTION: CONTAINS ASBESTOS FIBERS: AVOID BREATHING DUST; BREATHING ASBESTOS DUST MAY CAUSE SERIOUS BODILY HARM".

Since sometime in 1975, Raymark has directed a pamphlet, published by Asbestos Institute of America (AIA) entitled "Recommended Work Practices, Use and Handling of Asbestos Textile Products", to purchasers of Raymark textile products. Also, in

Raymark commenced distri

uctions with all friction material .

itionally, early in 1977, Raymark distributed a
ronmental package" to its asbestos textile customers
package contained a copy of the aforementioned booklet,
with an up to date copy of the OSHA asbestos regulatio
summary of the results of certain laboratory tests of 1
released from asbestos fabrics conducted at McGill Universi
a list of suppliers of protective equipment, a list of labor
tories and consultants offering asbestos dust monitoring ser
vices, and a list of suppliers of vacuum cleaners and sources
of information on design and control of local exhaust systems.

It is believed that plaintiff was aware of the danger of
asbestos and of the warnings distributed by Raymark and failed
to take adequate precautions for his own safety. It is also
believed that the plaintiff failed to adhere to the recommended
work pratice as set forth in the aforementioned booklet distri-
buted by Raymark. Additionally, the potential dangers of
prolonged asbestos dust inhalation were well known to
insulation workers and the responsibility for supervising their
work prac- tices remains with their supervisors and employers.
It is also believed that insulation workers are provided with
warnings concerning the dangers of asbestos exposure by their
union re- presentative.

51. Raymark objects to this interrogatory because it is
overly broad in that it seeks information which is neither re-
levant nor reasonably calculated to lead to the discovery of

admissible evidence, it is vague and ambiguous in that the phrase "the likelihood of asbestos being hazardous to human health" is undefined and capable of various interpretations and it fails to refer to a particular, relevant Raymark asbestos containing textile product.

52. See Rider G referring to awareness of hazards.

53. See response to 52 above.

54. See response to 52 above.

55. See Rider H and I.

56. See Rider J.

57. See response to 55.

58. Raymark objects to this information in that it is overly broad and seeks information which is neither relevant nor reasonably calculated to lead to the discovery or admissible evidence. Furthermore, it is vague and ambiguous as it fails to specify a specific relevant time period, product and application. Without waiving said objection and subject thereto, see Rider K.

59. See response to 60.

60. See Rider L.

61. See Rider M.

62. Raymark objects to this interrogatory as it is vague in that the term "available" is capable of various interpretations. The groups listed would be better situated to provide a response.

63. See response to 61.

64. See response to 61.

65. See Rider N and O.

66. Raymark objects to this interrogatory in that it seeks information which is irrelevant and not calculated to lead to the discovery of admissible evidence in that the term "potential health hazards" is vague and ambiguous.

67. See response to 66.

68. Raymark objects to this question because it is overly broad and seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence. Without waiving said objection and subject thereto, Raymark recently marketed non-asbestos textile products suitable for use as substitutes for asbestos textile products in some applications. Pyroglas, a spun glass fiber woven material, was introduced in 1979 for use in thermal and electrical insulation applications. Flextra, made from Kevlar/Nomex aramid fibers was introduced in 1981 in the form of cloth, tape and tubing. Pyroglas cloth was removed from the market in 1980 due to poor sales; Pyroglas tape is still marketed.

In recent years, Raymark experimented extensively with textile products based on non-asbestos fibers. Fiber types tested included refractory (leached glass), ceramic, kaowool and fiberfrax fibers. All of these fibers were found to be too fragile to be incorporated in textile products. Raymark also conducted extensive research to develop yarns from glass, polyester and acrylics for use in paper felts.

Pyrosleeve is a spun glass product coated with silicone or other rubbers and braided into tubing.

69. Raymark objects to this question because it is overly broad and seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence, as Raymark's customers, and not Raymark, were responsible for the working conditions of their employees. Without waiving the foregoing objection and subject thereto, Raymark states that it occasionally recommended to customers to conduct dust counts on their work sites in order to determine whether their employees should be wearing protective equipment.

70. Raymark's asbestos textile products were shipped by truck to specific destinations. For many years, cloth products were wound on cardboard cores and wrapped in burlap. Starting in approximately 1973, the outer wrapping was polyurethane film inside of burlap. Tape products were wound in rolls and packed in cardboard cartons with Raybestos-Manhattan printed on the cartons. Starting in approximately December, 1978, tape was furnished in individual packages covered with heat-shrunk polyurethane film. A number of packages were placed in cardboard cartons for shipment.

71. No. However, from 1969 until 1974, Raymark manufactured certain asbestos products for Johns-Manville Corporation according to Johns-Manville's product specifications. This was done as part of Raymark's purchase of the Marshville, North

Carolina plant from Johns-Manville. In addition, some of Raymark's customers may have resold asbestos textile products purchased from Raymark, but Raymark has no record of any such resales. In addition, from the late 1940's or early 1950's Raymark's Manheim, Pennsylvania plant manufactured certain packing products sold by Anchor Packing Company and shipped in Anchor Packing packaging. That arrangement terminated in 1981. Thereafter, Raymark's former North Charleston, South Carolina plant (sold in June, 1982) manufactured similar products for Anchor Packing.

72. See response to 71 above.

73. See response to 71 above.

74. N/A.

75. Raymark objects to this interrogatory in that it is overly broad, seeking information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence and because it is unduly burdensome and oppressive.

76. The objections set forth in response to interrogatory 75 are incorporated and herein by reference.

77. Raymark has not yet selected expert witnesses. When such experts are selected, plaintiff will be notified as to their names, qualifications, etc., accordingly.

78. See response to 77 above.

79. Other than the plaintiff and the other defendants herein, Raymark has no such knowledge as yet.

80. Raymark objects to this interrogatory upon advise of counsel in that it seeks information protected by the attorney's work product in that it necessarily calls for the disclosure of the mental impressions, conclusions, opinions, or legal theories of Raymark's counsel concerning the litigation.

81. Raymark does not contest service of process.

82. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence as it fails to specify a particular, relevant product, time period and condition of exposure, it is vague and ambiguous because the phrase "asbestos containing or thermal insulation products" is undefined and capable of various interpretations, and it is unduly burdensome and oppressive. Without waiving the foregoing objections and subject thereto, Raymark states that to the extent the information sought in this interrogatory can be ascertained from a review of Raymark's asbestos product sales records, the burden of deriving the information is the same for Raymark as for the party propounding this interrogatory. Such records are located in a document depository at the offices of Pitney, Hardin, Kipp & Szuch, 163 Madison Avenue, Morristown, New Jersey 07960. Gathered from Raymark's facilities around the country, the documents are maintained in the same manner as they were discovered. Upon reasonable notice, counsel will be permitted to review any non-privileged documents in a manner

consistent with Raymark's obligation to maintain the documents in its possession in the order in which they were discovered at Raymark's facilities and consistent with its obligation to make the documents available for inspection by other counsel throughout the country. At the time of the inspection, Raymark will designate those file drawers within the document depository in which responsive information is most likely to be found. Copies of documents requested will be provided at the propounding party's expense.

83. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence as it fails to specify a particular, relevant product, time period and condition of exposure, it is vague and ambiguous as it fails to specify particular relevant products, and time period, and it is unduly burdensome and oppressive. Without waiving the foregoing objections and subject thereto, Raymark states that to the extent the information sought in this interrogatory can be ascertained from a review of Raymark's asbestos product sales records, the burden of deriving the information is the same for Raymark as for the party propounding this interrogatory. Such records are located in a document depository at the offices of Pitney, Hardin, Kipp & Szuch, 163 Madison Avenue, Morristown, New Jersey 07960. Gathered from Raymark's facilities around the country, the documents are maintained in the same manner as

they were discovered. Upon reasonable notice, counsel will be permitted to review any non-privileged documents in a manner consistent with Raymark's obligation to maintain the documents in its possession in the order in which they were discovered at Raymark's facilities and consistent with its obligation to make the documents available for inspection by other counsel throughout the country. At the time of the inspection, Raymark will designate those file drawers within the document depository in which responsive information is most likely to be found. Copies of documents requested will be provided at the propounding party's expense.

84. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence as it fails to specify particular, irrelevant products, time period, it is vague and ambiguous because of the phrase "responsible for sales" is undefined and capable of various interpretations and is unduly burdensome and oppressive. Without waiving the foregoing objections and subject thereto, Raymark states that to the extent the information sought in this interrogatory can be ascertained from a review of Raymark's asbestos product sales records, the burden of deriving the information is the same for Raymark as for the party propounding this interrogatory. Such records are located in a document depository at the offices of Pitney, Hardin, Kipp & Szuch, 163 Madison Avenue, Morristown, New

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85 Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence as it fails to specify a particular, relevant product, time period and condition of exposure, it is vague and ambiguous because the products referred to are not defined and as phrased in the interrogatory are subject to various interpretations and is unduly burdensome and oppressive. Without waiving the foregoing objections and subject thereto, Raymark states that to the extent the information sought in this interrogatory can be ascertained from a review of Raymark's asbestos product sales records, the burden of deriving the information is the same for Raymark as

for the party propounding this interrogatory. Such records are located in a document depository at the offices of Pitney, Hardin, Kipp & Szuch, 163 Madison Avenue, Morristown, New Jersey 07960. Gathered from Raymark's facilities around the country, the documents are maintained in the same manner as they were discovered. Upon reasonable notice, counsel will be permitted to review any non-privileged documents in a manner consistent with Raymark's obligation to maintain the documents in its possession in the order in which they were discovered at Raymark's facilities and consistent with its obligation to make the documents available for inspection by other counsel throughout the country. At the time of the inspection, Raymark will designate those file drawers within the document depository in which responsive information is most likely to be found. Copies of documents requested will be provided at the propounding party's expense.

86. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence as it fails to specify a particular, relevant product, time period and condition of exposure, it is vague and ambiguous because the phrase "products . . . containing asbestos fibers" is undefined and capable of various interpretations, and it is unduly burdensome and oppressive. Without waiving the foregoing objections and subject thereto, Raymark states that to the extent the information sought in

this interrogatory can be ascertained from a review of Raymark's asbestos product sales records, the burden of deriving the information is the same for Raymark as for the party propounding this interrogatory. Such records are located in a document depository at the offices of Pitney, Hardin, Kipp & Szuch, 163 Madison Avenue, Morristown, New Jersey 07960. Gathered from Raymark's facilities around the country, the documents are maintained in the same manner as they were discovered. Upon reasonable notice, counsel will be permitted to review any non-privileged documents in a manner consistent with Raymark's obligation to maintain the documents in its possession in the order in which they were discovered at Raymark's facilities and consistent with its obligation to make the documents available for inspection by other counsel throughout the country. At the time of the inspection, Raymark will designate those file drawers within the document depository in which responsive information is most likely to be found. Copies of documents requested will be provided at the propounding party's expense.

87. Raymark objects to this interrogatory because it is overly broad in that it seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence as it fails to specify a particular, relevant product, time period and condition of exposure, it is vague and ambiguous because the phrase "asbestos containing products" is undefined and capable of various interpretations,

and it is unduly burdensome and oppressive. Without waiving the foregoing objections and subject thereto, Raymark states that to the extent the information sought in this interrogatory can be ascertained from a review of Raymark's asbestos product sales records, the burden of deriving the information is the same for Raymark as for the party propounding this interrogatory. Such records are located in a document depository at the offices of Pitney, Hardin, Kipp & Szuch, 163 Madison Avenue, Morristown, New Jersey 07960. Gathered from Raymark's facilities around the country, the documents are maintained in the same manner as they were discovered. Upon reasonable notice, counsel will be permitted to review any non-privileged documents in a manner consistent with Raymark's obligation to maintain the documents in its possession in the order in which they were discovered at Raymark's facilities and consistent with its obligation to make the documents available for inspection by other counsel throughout the country. At the time of the inspection, Raymark will designate those file drawers within the document depository in which responsive information is most likely to be found. Copies of documents requested will be provided at the propounding party's expense.

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admissible evidence as it fails to specify a particular, relevant product, time period and condition of exposure, it is vague and ambiguous because the phrase "asbestos containing products" is undefined and capable of various interpretations, and it is unduly burdensome and oppressive. Without waiving the foregoing objections and subject thereto, Raymark states that to the extent the information sought in this interrogatory can be ascertained from a review of Raymark's asbestos product sales records, the burden of deriving the information is the same for Raymark as for the party propounding this interrogatory. Such records are located in a document depository at the offices of Pitney, Hardin, Kipp & Szuch, 163 Madison Avenue, Morristown, New Jersey 07960. Gathered from Raymark's facilities around the country, the documents are maintained in the same manner as they were discovered. Upon reasonable notice, counsel will be permitted to review any non-privileged documents in a manner consistent with Raymark's obligation to maintain the documents in its possession in the order in which they were discovered at Raymark's facilities and consistent with its obligation to make the documents available for inspection by other counsel throughout the country. At the time of the inspection, Raymark will designate those file drawers within the document depository in which responsive information is most likely to be found. Copies of documents requested will be provided at the propounding party's expense.

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information is most likely to be found. Copies of documents requested will be provided at the propounding party's expense.

91. See our objections to the preceding interrogatories.

VERIFICATION

STATE OF CONNECTICUT)

COUNTY OF FAIRFIELD)

JOHN KUTZLER, being duly sworn, according to law, upon his oath, deposes and says: I am Controller and Assistant Secretary of Raymark Industries, Inc. and am authorized to make this verification on its behalf; I have read the foregoing Answers to Interrogatories and know their contents; the facts stated therein are not within my personal knowledge, the facts have been assembled by authorized employees of Raymark Industries, Inc., and I am informed and believe and, based upon such information and belief, declare that the facts stated therein are true.

JOHN KUTZLER

CERTIFICATE OF SERVICE

I hereby certify that I have this the _____ day of _____, 1985, served a copy of the foregoing on all counsel by mailing same to each by U.S. Mail, postage prepaid and properly addressed.

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Southern District of Alabama
United States Courthouse
113 St. Joseph Street
Mobile, Alabama 36602

C:1038

Rider A

PID

T26A - T26C
3 pages

A. RAYMARK TEXTILE PRODUCTS AND TRADE NAMES

I. Chrysotile Products

<u>Product</u>	<u>Approx. Date First Sold</u>	<u>Approx. Max. Asbestos %</u>	<u>Appearances</u>	<u>Intended Use</u>
Lap*	1935	100	Convolute coiled felt	Electrical insulation
Roving	1929	95	Untwisted thread	Raw material for textiles
Cable filler	1938	100	Twisted thread	Electrical cable insulation
Glassbestos	1940	80	Twisted thread	" "
Yarn	1929	95	" "	Raw material for
Novatex	1972	100	" "	textiles and sewing
Sealsafe	1975	80	" "	thread for lagging and heat resistant fabrication
Rope*	1929	90	Twisted Rope	Sealing material
Wick*	1929	90	Loosely twisted	" "
Cloth	1929	95	Woven fabric	Miscellaneous heat
Glassbestos	1940	80	" "	and flame resistant applications such as welding cur- tains, fire checks,
Rhinobestos	1946	90	" "	lagging cloth, laminare reinforcing, etc.
Polybestos*	1955	85	" "	
Silvabestos	1959	75	" "	
Novatex	1967	100	" "	
Speedlag*	1969	65	Adhesive coated woven fabric	Pipe lagging

<u>Product</u>	<u>Approx. Date First Sold</u>	<u>Approx. Max. Asbestos %</u>	<u>Appearances</u>	<u>Intended Use</u>
Eleven Thirty- three	1971	90	Woven fabric	Miscellaneous
Tribestos*	1971	90	Woven fabric	Safety clothing
Sealsafe	1975	80	Treated cloth	Safety clothing
Goldbestos*	1959	70	Coated cloth	Ironing board covers
Novabestos*	1947	95	Woven Cloth	Miscellaneous
Flurobestos	1955	75	Fluorocarbon	Chemical resistant coated cloth
Terrybestos*	1957	80	Tufted cloth	Gloves
Felts	1938	100	Paper coil or roll	Electrical insula- tion and/or laminate reinforcement
Tape	1929	85	Convolute coil	
Gatortape	1963	80	" "	
Glassbestos	1942	80	" "	
Sealsafe	1975	80	" "	Electrical
Novatex	1970	100	" "	and/or thermal
Pyrotex	1938	60	" "	insulation and/
Allbestos*	1941	80	" "	or fire resistance
Novabestos*	1947	85	" "	
Tubing	1929	100		Filtering and pro- tective covering
Novatex	1973	100		for pipes and
Sealsafe	1975	80		tubing

*Discontinued products:

Novabestos - 1964
Terrybestos - 1960
Goldbestos - 1970
Speedlag - 1976

Polybestos - 1979
Tribestos - 1979
Lap - 1981
Rope, Wick - 1981
Allbestos - 1981

<u>Product</u>	<u>Approx. Date First Sold</u>	<u>Approx. Max. Asbestos %</u>	<u>Appearances</u>	<u>Intended Use</u>
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II. Crocidolite Products

Packings*	1929	—	Coiled or twisted rope	Mechanical applications
Valve Rings*	1950's	—	Untwisted Thread	Mechanical applications

*Discontinued products:

Packings - 1972
Valve rings - early 1970's

III. Amosite Products

Blankets*	1929	100	Woven blanket	Electrical and/or thermal insulation for U.S. Navy
Tape*	1940	—	Convolute coil	Electrical and/or thermal insulation

*Discontinued products:

Blankets - 1944 (also manufactured between approx. 1950-53)
Tape - 1970

IV. Anthophyllite Products

Paper	1958	100	Compressed threads	Automatic transmission applications
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Rider B

Raymark has performed studies at the below listed customer locations to determine the extent of airborne concentrations of asbestos fiber during the use, installation or fabrication of its textile asbestos products:

Detyens Shipyard, Mount Pleasant, S.C. (April 28, 1975) (cloth)
North Brothers, Inc. (National Service Industries), Atlanta, Georgia (August 13, 1975) (cloth)
A-Best Corp., Cleveland, Ohio (November 11, 1975) (safety clothing)
C.D. Genter Co., Chattanooga, Tenn. (February 25, 1976) (gloves)
W.E. Palmer Co., South Boston, Mass. (November 8, 1976) (curtains)
Abney Mills Co., Greenville, S.C. (January 20, 1976) (paper makers felts)
Hoechst Fiber Co., Spartanburg, S.C. (September 29, 1976) (weaving cloth)
Westinghouse Electric Co., Hampton, S.C. (March 9, 1976)
W.E. Palmer, Boston, Mass. (December, 1978) (curtains)
Frommelt Industries, Dubuque, Iowa (March, 1979) (cloth)
Lanco Industries, Jackson, Mo. (March, 1979) (cloth)

These tests were performed principally under the direction of Patrick Cooper, Manager of Environmental Services, Raybestos-Manhattan Industrial Products Company, North Charleston, S.C. (1975 and 1976 tests) and John O. Pearson, Raymark's Corporate Industrial Hygienist (1978 and 1979 tests). In each of these tests, the fiber counts recorded were below prescribed limits. In no case in which Raymark has conducted dust counts in areas involving the use of Raymark materials sold for use by insulation mechanics has there been any indication that allowable airborne fiber concentrations in effect at the time of such tests have ever been exceeded.

In addition, Raymark conducted similar tests at its former North Charleston, S.C. location on the following Raymark textile asbestos products:

Allbestos Tape (March 16, 1977)
9P135N AAAA Sealsafe Cloth (June 6, 1977)
L-71-1133 Sealsafe Cloth (June 6, 1977)
9P125N AAAA Neoprene Coated Cloth (May 16, 1977)
201N AAAA 1-1/2" x 1/16" tape (September 26, 1977)
RL-6164 Catalytic Converter Seal (January 13, 1978)
L-75-1996N Sealsafe Coated Braided Tubing
(January 13, 1978)

During the years 1974 through 1976, Raymark funded tests at McGill University, Montreal, Canada in order to determine relative "dustiness" of different types of asbestos fabric and to compare relative rates of fiber release between different fabrics during severe use or abuse. The studies were conducted by Graham W. Gibbs, MSC, PhD., L.R.I.C. and were authorized by John E. Marsh, Director of Environmental and Government Affairs, on May 11, 1973. The results of the tests set forth airborne fiber concentrations recorded during laboratory tests of various asbestos fabrics but did not indicate the concentrations which might be found if these materials were tested under different conditions, or in another testing system, or during the normal use, fabrication or handling of the materials. Four reports were issued as a result of these studies: "Tests of Fiber Release from Three Asbestos Fabrics," (July 3, 1975); "Laboratory Tests of Fiber from 19 Asbestos Fabrics," in (September 1976); "Fiber Release from Asbestos Garments"; and "Dimensions and Concentrations of Airborne Fibers Encountered in the Work Environment During Conventional and NOVATEX Asbestos Processing."

The results demonstrate only the relative release of fibers by fabrics when subjected to the stresses as applied in the laboratory tests. To the best of Raymark's knowledge, no statistical analysis was made of the test results.

Rider C

- A. With the exception of the development of the patented "wet process" system for manufacturing Novatex asbestos yarns and textiles, there were no modifications of the basic composition of Raymark's asbestos textile products from the time of their original development until 1982, when Raymark sold its asbestos textile plant in North Charleston, South Carolina. During that time Raymark did discontinue the manufacture of some products due to lack of sales and did develop non-asbestos substitutes for some asbestos textile products.

United States Chamber of
Commerce
1615 H St., N.W.
District of Columbia 20062

N/A - present

Rider D

- A. No such notice was deemed necessary because exposure to airborne fiber levels generated by the installation of Raymark products furnished for use by insulation mechanics are below those limits at which health effects are known to occur and below limits recommended by industrial hygiene authorities. Raymark's asbestos products furnished for use by insulation mechanics were basically textile in nature, composed of relatively long textile grade asbestos fiber that does not readily become airborne during normal use, fabrication and/or handling in the environment of industrial insulation mechanics. Raymark does not believe these materials presented health hazards to mechanics who used them in the course of their work.

However, beginning in July 1972, in an attempt to further insure against misuse of its products, Raymark placed caution labels on products where asbestos fibers were not encapsulated. This was done in accordance with the OSHA standard, effective in June 1972. Beginning in 1974, cautions were placed on all asbestos products furnished by Raymark stating, in accordance with OSHA requirements: CAUTION. CONTAINS ASBESTOS FIBERS. AVOID CREATING DUST. BREATHING DUST MAY CAUSE SERIOUS BODILY HARM. The caution label has been on each package of each shipment from Raymark plants since the date that the warnings first were used.

The cautions were placed on products by means of ink, stencil, pressure sensitive adhesive label, preprinted adhesive tape, preprinted packaging or wrapping material and printed paper tags. These cautions are in regular use at each

shipping location that handles asbestos-containing products.

In addition, since sometime in 1975, Raymark distributed a booklet entitled "Recommended Work Practices, Use and Handling of Asbestos Textile Products" to customers of textile products. Since mid-1975, Raymark has distributed an asbestos "information list" to many of its customers and other interested parties. This list contains recommended work practices and information on monitoring services and protective equipment, among other things.

In addition to caution labels on packages, printed work practice instructions have been included in all shipments of asbestos-containing friction materials since in or about mid-1975. These instructions read as follows:

IMPORTANT
ASBESTOS DUST HAZARD

- Do not breathe dust
- Do not use air hoses for cleaning
- Do not machine without dust collection equipment
- Do use vacuum or wet cleaning methods
- Do dispose of dust in sealed container
- Do wear mask if unable to avoid dust

Customers have been apprised of the need for precautions against airborne asbestos dust hazards by means of printed bulletins from time to time since approximately January 1975.

Early in 1977 Raymark distributed an "Environmental Package" to its asbestos textile customers. This package contained a copy of the aforementioned booklet, along with an up to date copy of the OSHA asbestos regulation, a summary of the results of certain laboratory tests of fiber release from asbestos fabrics conducted at McGill University, a list of suppliers of protective equipment, a list of laboratories and consultants offering asbestos dust monitoring services and a list of suppliers of vacuum cleaners and sources of information on design and control of local exhaust systems. The "Environmental Package" was assembled by John E. Day, Jr., Director of Environmental Programs at Raymark's former plant in North Charleston, S.C.

Beginning in or about October 1977, Raymark provided the following notice on those of its asbestos textile products which, despite being treated with a dust-suppressing binder to fully encapsulate the asbestos fibers, might release airborne fiber levels in excess of OSHA limits if subjected to significant abuse:

NOTICE

This asbestos product is manufactured with a dust-suppressing binder for the express purpose of locking-in fibers during normal use. Care should be used while handling all asbestos products so as to avoid abuse and excessive dust emission. For detailed information, consult the handbook "Recommended Work Practices - Use and Handling of Asbestos Textile Products," published by the Asbestos Information Association. A copy will be sent to you upon request.

Write to: Textile Group
R/M Industrial Products Company
P.O. Box 5205
North Charleston, S.C. 29406

The work practice instruction sheets were authorized by John H. Marsh, Director of Environmental and Government Affairs, Raymark Industries, Inc., 100 Oakview Drive, Trumbull, CT. The booklet entitled "Recommended Work Practices - Use and Handling of Asbestos Textile Products" was obtained from the Asbestos Information Association.

The caution labels are attached directly to the outside of asbestos products packages prior to shipment from Raymark plants. Work practice sheets are inserted inside friction materials containers prior to shipment. AIA booklets have been distributed by hand and by mail, and to the best of Raymark's knowledge no record has been kept of these distributions. The "Environmental Package" was circulated by mail to asbestos textile customers.

Aside from the aforementioned booklets, Raymark did not provide its customers with any special instructions. Raymark as a rule does not furnish application or installation instructions with products sold for use by insulation mechanics. Procedures for the use of these materials are believed to be so old and well-known as to constitute state of the art technique and are not published or disseminated by Raymark.

Rider E

A. Raymark from time to time advertised its asbestos-containing products in one or more of the following magazines and trade journals:

Asbestos Magazine
Canadian Cleaner and Launderer
Occupational Safety and Health
National Safety News
Design News
Machine Design
Materials Engineering
Occupational Hazards
Industrial Laundry Linens
Laundry Digest
Linen Supply News
Business Week
Forbes
Fortune
Power Engineering
Chemical Processing
Chemical Engineering
Industry Week
Automotive Industries
Automotive Engineering
Wards Automotive Yearbook
SAE Regional Publications
Purchasing Magazine
Industrial Fabric Products Review
The Guide
Fire Journal
Hospital Progress
Industrial World
Transporte Moderno
Auto Intenational (Spanish Ed.)
Motrix
Welding Design and Fabrication
Occupational Hazards
National Safety News
Industrial Safety Products News

Samples of typical advertisements in such magazines and journals are attached hereto.

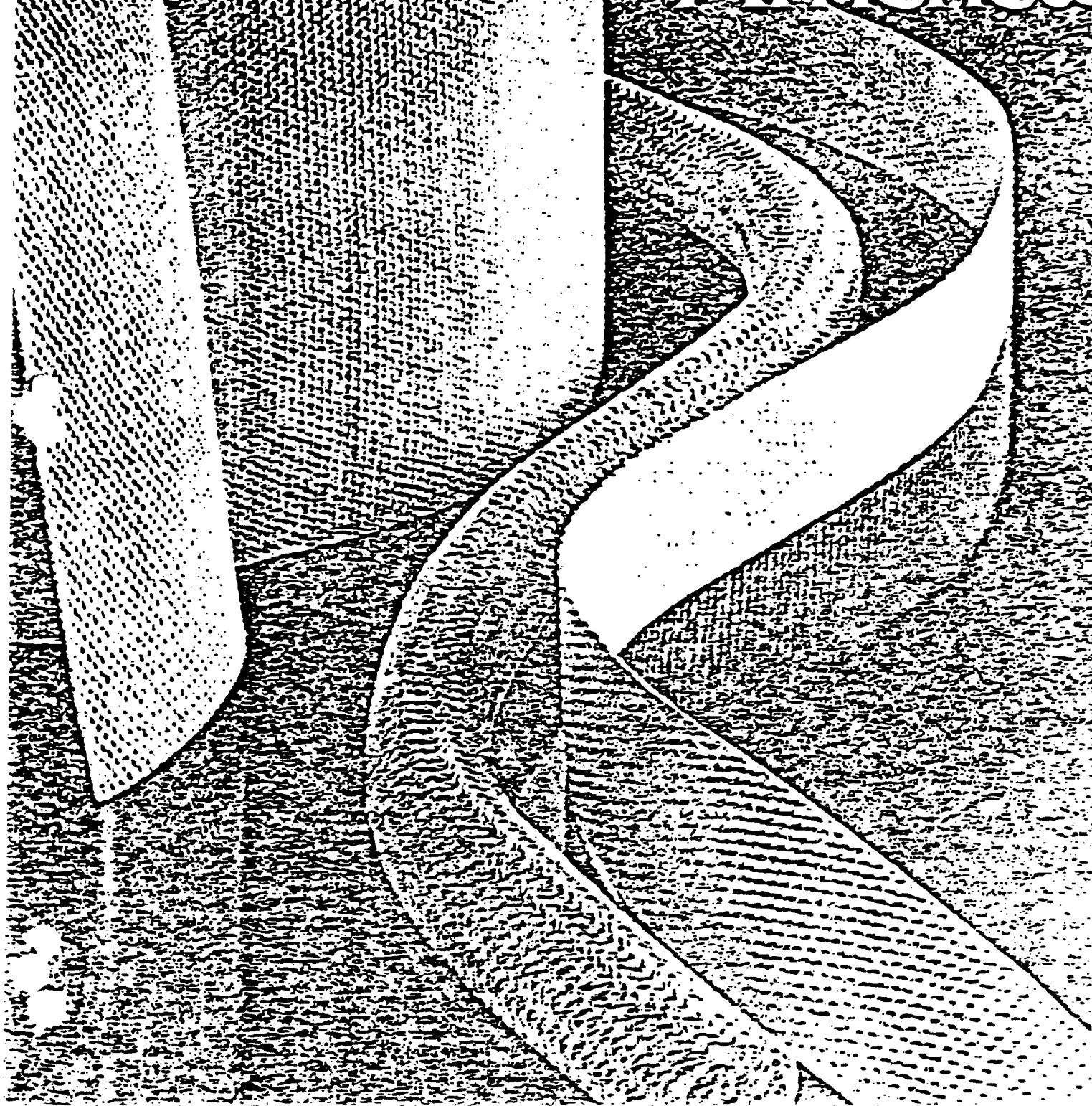
Raymark also advertised many of its asbestos-containing products in catalogs and informational brochures published from time to time. These materials were distributed nationwide upon

the request of customers and sales representatives. Those catalogs and brochures contained, inter alia, product descriptions, product applications, product specifications, price lists and photographs. The following asbestos-containing products were advertised in these publications:

Asbestos Lap; Asbestos Roving; Asbestos Cable Filters; Yarn; Asbestos Thread; Asbestos Cord and Steam Hose Yarn; Twisted Cord and Braided Cord; Woven Asbestos Tape; Thermal Insulating Tape; Heat Insulating Tape; Lagging Cloths for Thermal Insulation; Asbestos Cloth; Asbestos Cloths for Reinforced Plastic Laminates; Asbestos Cloth for Safety Garments; Braided Asbestos Tubing; Novabestos Papers; Novabestos Insulating Tapes; Pyrotex Felts and Tapes; Tru-Blu Wicking; Woven Glass; Quik Flame; Kindlerite; Speedlag Cloth; Gator Tape Cable Insulating Tape; Novatex Textiles; Sealsafe Asbestos Products.

NOVATEX®

America



Great Protector!

Just last year, you were introduced to a revolutionary new asbestos process from Raybestos Manhattan—NOVATEX. We called it the Great Protector because it was not only a superior heat shield, but also extremely clean asbestos protection. Today, companies all over America agree that NOVATEX is indeed the Great Protector. It's giving them the full protection that only asbestos can offer, with greater occupational safety than conventional asbestos textiles.

THE GREAT CLEAN PROCESS

ORM's exclusive new forming process for NOVATEX yarns eliminates dry forming. They're extruded wet through a nozzle. Because there is no mechanical opening, bending, carding or spinning, far fewer fibers are emitted.

THE GREAT SEALSAFE TREATMENT

NOVATEX textiles are cleaner than OSHA requires because of our revolutionary process and because of our exclusive SEALSAFE treatment. An acrylic resin encapsulates asbestos fibers, dramatically reducing measures of airborne fiber counts. NOVATEX products treated with SEALSAFE actually emit fewer fibers than the current OSHA standard when used with proper work practices.

THE GREAT PERFORMANCE

- It's all asbestos—100% mineral VASTM Grade AAAA.
- It doubles heat resistance. NOVATEX protects up to 900° where conventional textiles can only protect to 450°F.
- It's stronger—50% stronger in tensile and tear strength.
- It's lighter—50% lighter, making it easier to fabricate, ship and use.
- And it's economical. NOVATEX products are fully cost-effective in many conventional asbestos textiles.

THE GREAT CHOICE

NOVATEX protects people and equipment in cloth, tape, tubing and yarn in many styles.

Cloth—for welding screens, blankets and drop curtains. Provides insulation for power plants, nuclear reactors and industrial and shipboard applications. Makes superb protective bodywear for coats, suits, leggings and aprons—aluminized and nonaluminized. Coated with neoprene, NOVATEX cloth is highly effective for abusive air carbon-arc gouging applications.

Woven and Slit Tapes—available in thicknesses .1732" through .174" for superior insulation in a wide variety of applications.

Tubing—to keep heat in, to keep heat out. Protects people as a sleeve or collar for hydraulic lines, hot pipes or cables.

Yarns—available in a high tensile, high temperature variety for many braiding and weaving applications.

THE GREAT PROTECTOR

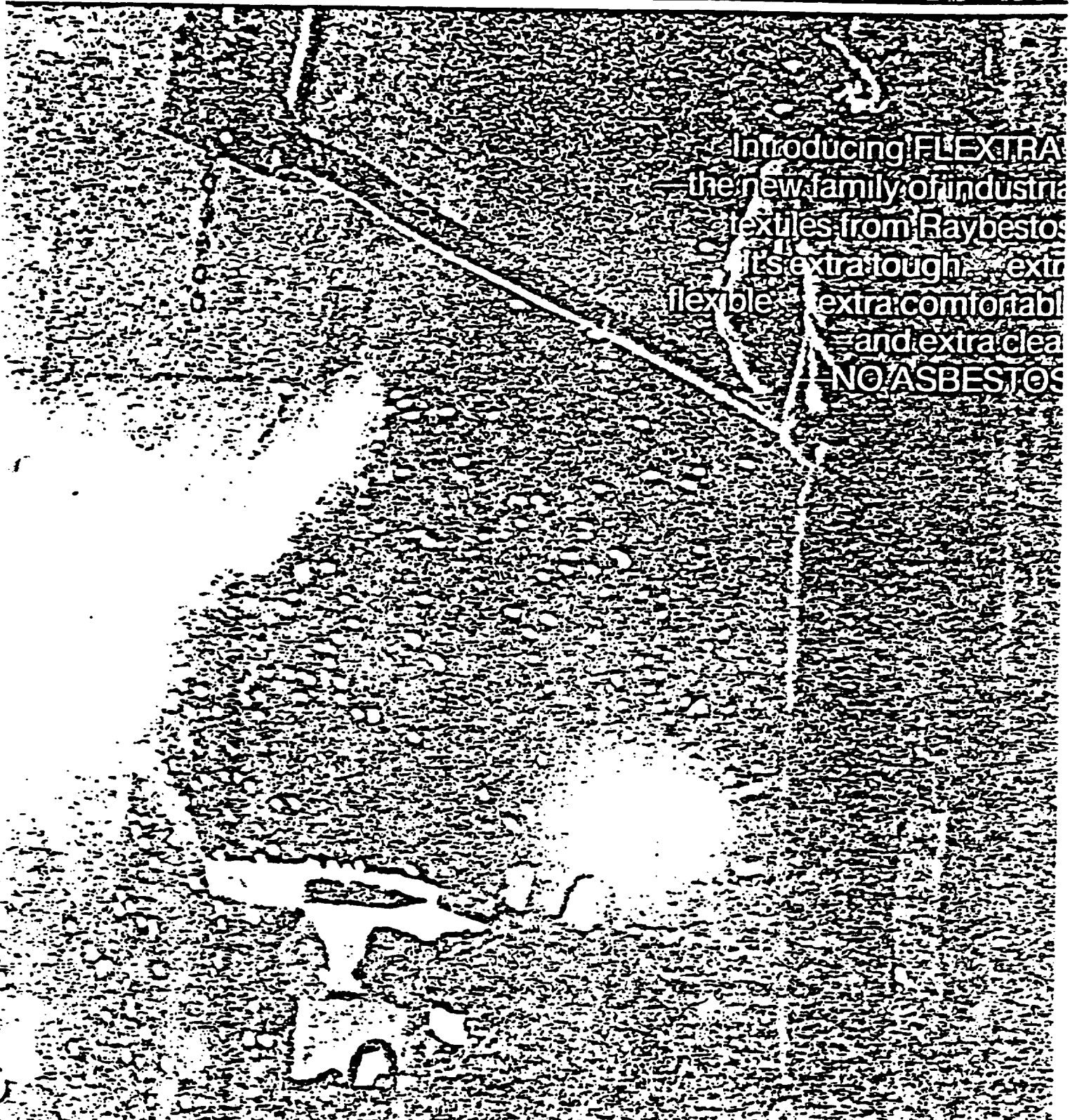
Cleaner, more protective, economical NOVATEX. Get it working for you, now. For more information and the location of your nearest distributor, call Fred Martschink, Marketing Manager, or Carlyle Singletary, Marketing Services Manager, toll-free at 800-845-8546.

Actual test results of fiber emission are available upon request.

ORM
Textile Group

ORM Industrial Products Co.
A division of Raybestos Manhattan, Inc.
North Charleston, SC 29406

GIVE ALL YOUR HANDS EXTRA PROTECTION



Introducing FLEXTRA
the new family of industrial
textiles from Raybestos.
It's extra tough, extra
flexible, extra comfortable
and extra clean.
NO ASBESTOS.

RAYBESTON

FLEX

AN EXTRAORDINARY NON-ASBESTOS

Raybestos, the acknowledged leader in heat-resistant and other high-performance industrial textiles, has a new extra special material that delivers durability, heat resistance, protection, and at the same time flexibility and processability. We do it with new FLEXTRA. But ever we were surprised to discover all the extra benefits FLEXTRA delivers. And you'll be equally surprised when you discover how Raybestos' new development can be economical in the long run while continuing to provide that something extra for your industrial process people and equipment.

FLEXTRA—an EXTRA special fiber blend. We're using some of the toughest categories of materials known to man and made by man—the aramids. Specifically, we engineer a combination of raw materials—some stronger than steel, others with cotton-like softness, all with good heat resistance—and blend them into a series of textile products with unique characteristics. The results? FLEXTRA textile is superior abrasion resistance, high tear strength, excellent dimensional stability, and good processability.

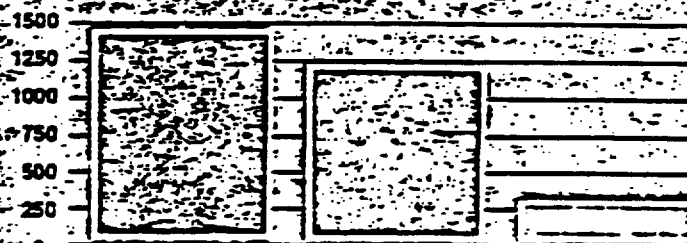
FLEXTRA—EXTRA tough and long-lasting. Overall, it's the most economical material

blends. Consider the wear-out rate of the protective materials you're using now. FLEXTRA gloves for example, can handle more abrasive activity. Also, FLEXTRA offers excellent resistance to acids and alkalis. It won't deteriorate with age. It won't mildew. FLEXTRA will last longer—much longer—saving you money.

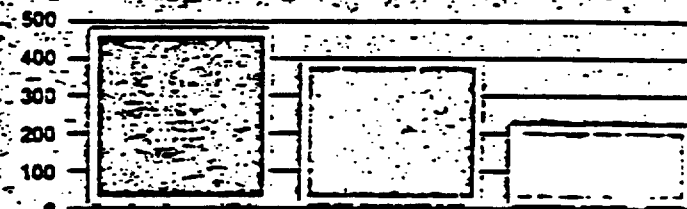
FLEXTRA—EXTRA heat resistance.

The FLEXTRA blend is self-extinguishing.

ABRASION COMPARISON* (CYCLES)



BURST TEST* (PSI)



Test Comparisons

FLEXTRA: 22 oz., .077 gauge, 22x10 construction

OTHER ARAMID BLEND FABRIC: 22 oz., .077 gauge, 20x10 construction

STIR

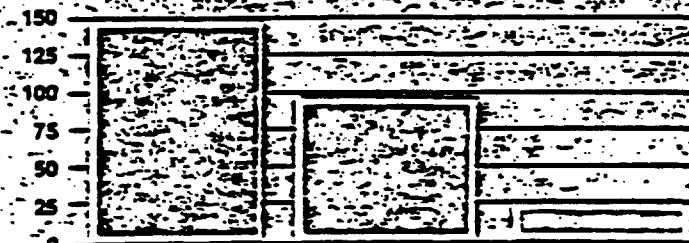
DEVELOPMENT FROM RAYBESTOS

and doesn't melt. It's perfect for hot applications in the 400°F-600°F range and excursion temperatures up to 1000°F. What's more Raybestos has the coated FLEXTRA to resist molten metal.

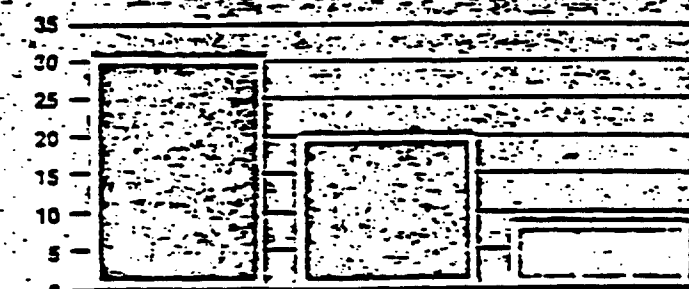
FLEXTRA—EXTRA comfortable

Whether it's for gloves, coats, aprons, sleeves or leggings, FLEXTRA is easier and more comfortable to work in. It has what textile people call "good hand"—a smooth,

HEAT TENSILE STRENGTH* (lbs.)
(WARP—24 HRS @ 600°F)



HEAT TEAR TEST (lbs.) (WARP—24 HOURS @ 500°F)



soft feel as compared to other materials. It's flexible and bends with the wearer's movements. It's lightweight and can be worn all day without fatigue. It lets the worker do what needs to be done, protecting all the way. FLEXTRA even looks good.

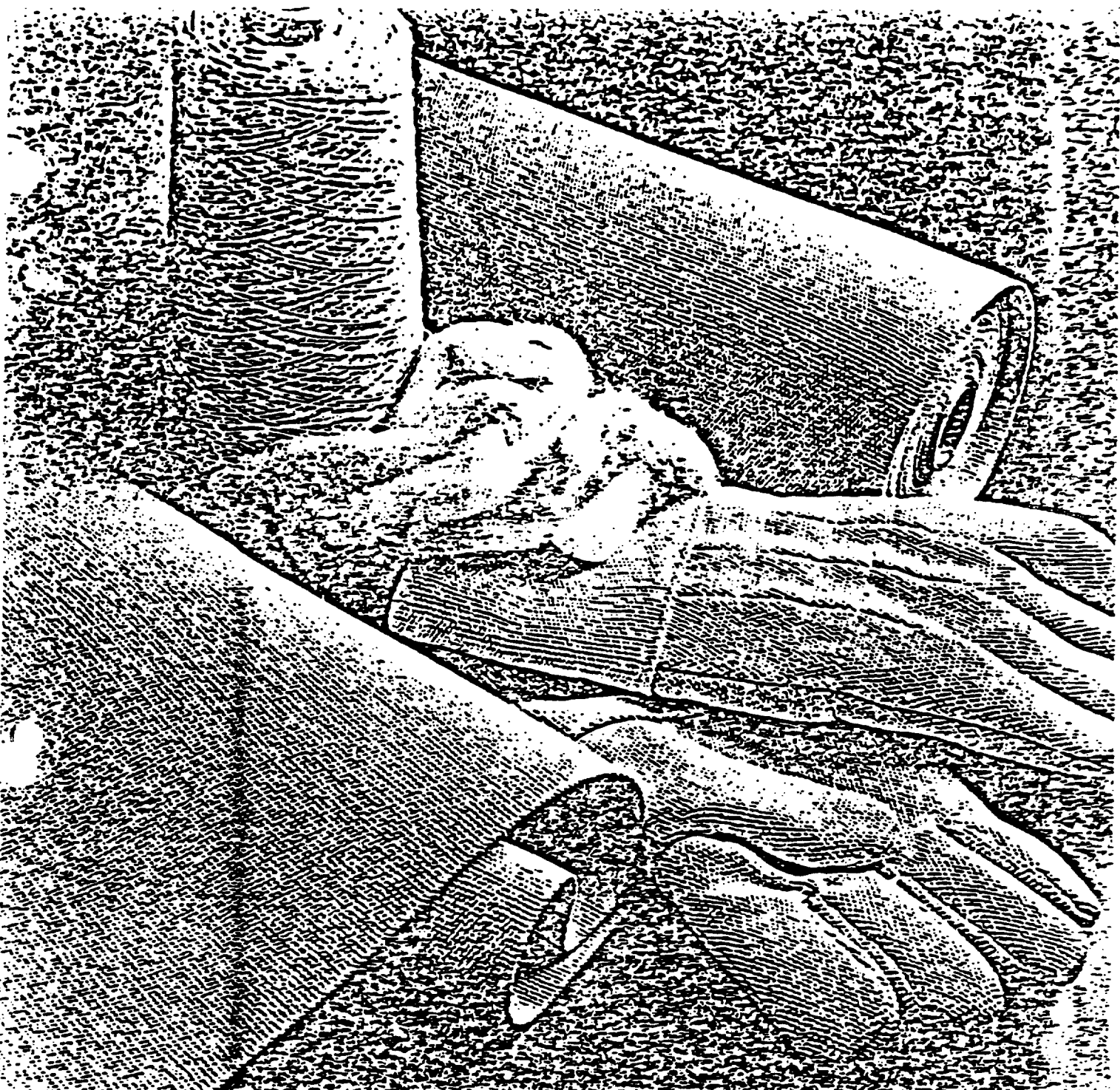
FLEXTRA—EXTRA easy to fabricate

Of all the industrial textiles on the market, new FLEXTRA processes best. It sews without fraying. For gloves and other boot wear, it turns incredibly easy. FLEXTRA won't curl, won't buzz, won't pill, it won'tch or irritate. FLEXTRA materials laminate easily and are compatible with a wide variety of coatings. FLEXTRA meets your particular fabricating and processing needs.

FLEXTRA—EXTRA protection for all your hands!

Raybestos new FLEXTRA starts a revolution for industrial heat-resistant materials. Available in cloth, yarn and other industrial textiles, both plain and coated. Whether it's for linings, gills, automotive paint, packings or electrical cables, FLEXTRA does better.

FLEXTRA tough... EXTRA comfortable...
FLEXTRA clean... EXTRA capable! Specific FLEXTRA—the industrial textiles for your needs.



FLEXTRA

The EXTRA protection you've been waiting for!

NOVATEX
THE GREAT PROTECTOR

NOVATEX

THE GREAT PROTECTOR OF PEOPLE AND EQUIPMENT!

Introducing a revolutionary protective textile. One that's effective and clean. NOVATEX!

Raybestos Manhattan has developed an exclusive forming process for NOVATEX yarns. They're extruded wet through a nozzle instead of formed dry. You can't get protection like NOVATEX, anywhere.

TWICE THE HEAT RESISTANCE

It's all asbestos - 100% ASTM Grade AAAA. Protects up to 900° F where most conventional textiles protect only to 450° F.

LIGHTER

6 lighter than most conventional insulating tiles. Lighter weight makes NOVATEX easier to fabricate and handle in welding screens, blankets, curtains and protective bodywear. And lighter weight means reduced freight costs.

STRONGER

An average of 35% higher in tensile strength and tear strength. NOVATEX cloths have been tested and used in-plant. Even more strength and durability can be obtained with various coatings. NOVATEX, the Great Protector, lasts!

CLEANER THAN OSHA REQUIRES

The exclusive NOVATEX process eliminates the conventional yarn forming with mechanical opening, blending, carding and spinning. Far fewer fibers are emitted. What's more, NOVATEX textiles are treated with another exclusive Raybestos Manhattan process: SEALSAFE™. SEALSAFE is an acrylic resin which encapsulates asbestos fibers and dramatically reduces airborne fiber counts... actually less than the current OSHA standard when used with proper work practices.

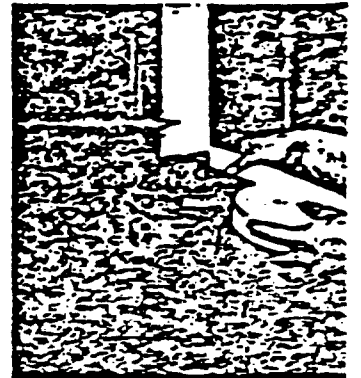
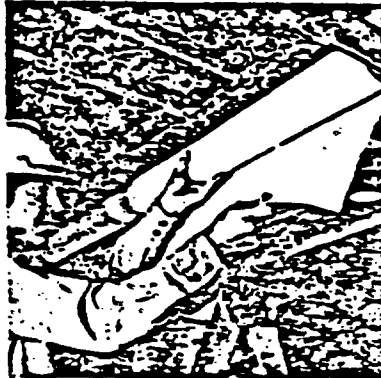
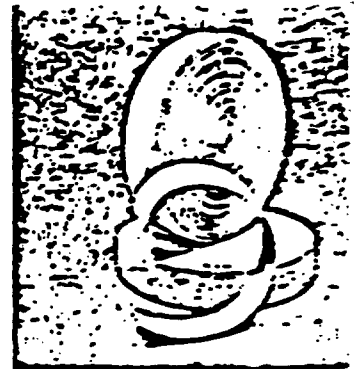
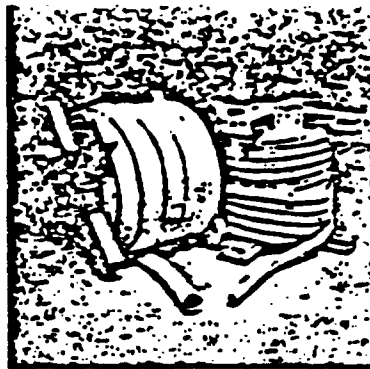
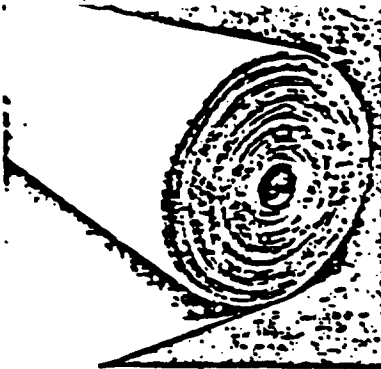
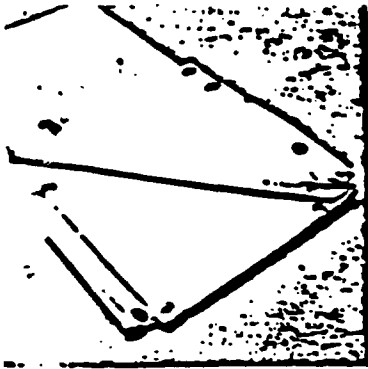
Comprehensive tests were conducted in an independent laboratory to measure airborne concentrations of fibers.* Here are the results:

Description	RM L-71-1133 (untreated for test)		RM SEALSAFE L-71-1133		NOVATEX SEALSAFE RM9P135N	
	1st Hr	4th Hr	1st Hr	4th Hr	1st Hr	4th Hr
Range	4.6	2.5	2.4	1.6	1.7	1.5

These test results show that when SEALSAFE resin treatment was added to NOVATEX cloth, fiber emission was reduced by 63% in the first hour when compared to an untreated conventional cloth. Your dust concentrations can be determined by on-site monitoring. These fiber counts are relative results to illustrate reduction.

*Test results available upon request.

**Results in fibers, longer than 5 microns, per cubic centimeter of air.



NOVATEX cloth for welding screens, blankets and drop curtains. Light weight, long life, low cost. When neoprene coated it is ideal for the highly abusive air carbon-arc gouging applications.

NOVATEX cloth is ideal for lagging over primary insulation. Readily accepts the mastics used in industrial and ship-board insulation. When installed, NOVATEX provides an attractive white appearance and is easy to wipe clean.

Use the NOVATEX tubing as a sleeve or collar on hydraulic lines, cables or hot pipes. Protects people and equipment.

NOVATEX woven and slit tapes available in 1/32" through 1/4" thicknesses provides superior insulation for a wide variety of applications.

NOVATEX IS ECONOMICAL

Superior protective qualities, a revolutionary manufacturing process, unprecedented cleanliness... yet NOVATEX can actually cost less than many conventional asbestos products! The best for the least!

CLOTH, TAPE AND TUBING

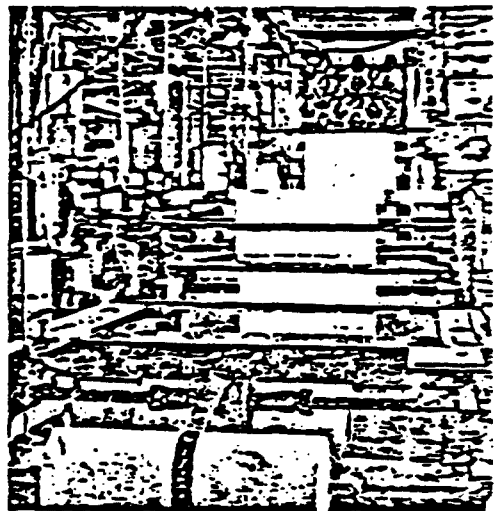
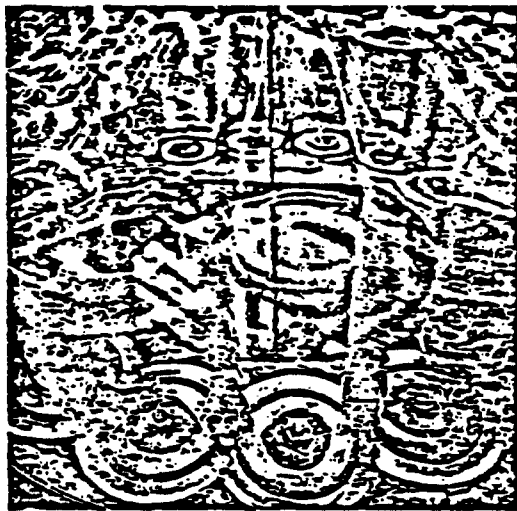
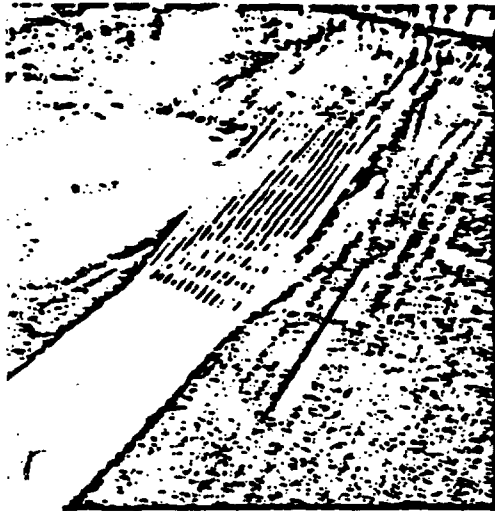
CLOTH... for welding screens, blankets and drop curtains. Insulation for power plants, nuclear reactors and shipboard and industrial insulating applications. Makes superb protective bodywear for coats, suits, leggings and aprons, aluminized or non-aluminized. NOVATEX cloth coated with neoprene has been tested and used successfully in highly

WOVEN AND SLIT TAPES.... available in 1/32" through 1/4" thicknesses for superior insulation protection in a wide variety of applications.

TUBING... to keep heat in, to keep heat out. Protects people and equipment as a sleeve or collar for hydraulic lines, hot pipes or cables.

WE CALL IT THE GREAT PROTECTOR

Because the unique NOVATEX process gives you a textile that is cleaner, more protective and more economical than most conventional textiles. It's your greatest choice for welding applications, insulation and protective clothing.



SPECIFY NOVATEX

Ask for the Great Protector. If your welding supply house or distributor can't supply you with NOVATEX, call us toll-free, 1-800-845-8546.

1. Microphotography shows a chemical preparation of mineral fibers as small as .000025" in diameter.
2. A .002-inch Inconel wire strand is directly inserted in a fine NOVATEX yarn. Shown compared to the head of a common pin.
3. A new loom operates at high speeds for specially woven applications.
4. High-speed loom weaves NOVATEX tapes for insulation applications.
5. High tensile strength makes NOVATEX yarns ideal for high-speed braiding.
6. NOVATEX cloth becomes SEALSAT with the addition of acrylic resin. This treatment assures reduced dust emission, and aids compliance with OSHA.

ORM
Textile Group

ORM Industrial Products Co.
A division of Raybestos Manhattan Inc.

SEALSAFE

Five Types to Choose From

There are five different categories of NOVATEX® products to choose from:

NOVATEX CLOTH—available in several styles for a various end use applications.

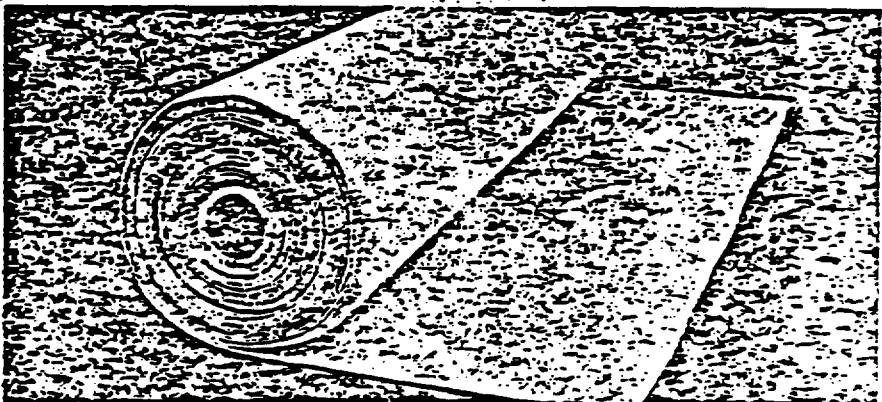
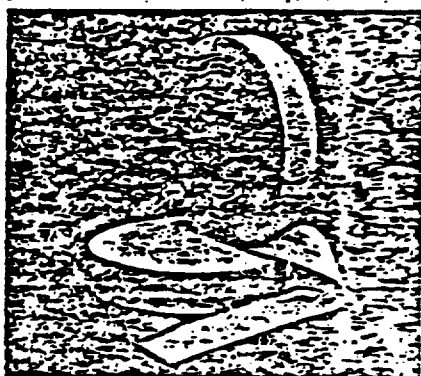
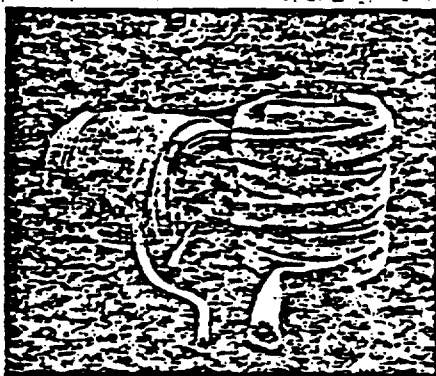
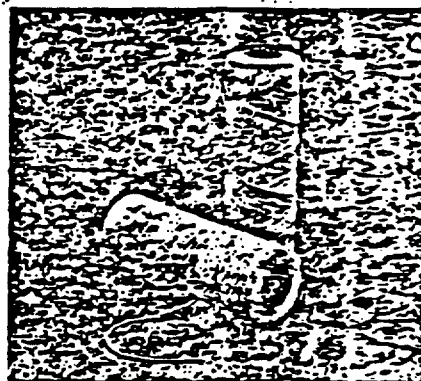
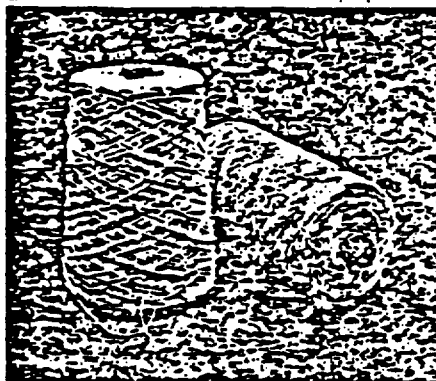
1. Replaces ASTM Grades Commercial, Underwriters, AA, AAA.
2. Higher tensile at half the weight.
3. NOVATEX cloth with SEALSAFE™ resin treatment emits fewer fibers than untreated NOVATEX cloth (See "SEALSAFE" section—Bulletin #1).

Safety Garments—gloves, mittens, coats, suits, leggings, both aluminized and non-aluminized.

Industrial Insulators—nuclear reactors, power plants, shipboard.

Welding—screens, blankets, drop curtains.

Gasket Manufacturers—untreated gasket cloth.



NOVATEX

BULLETIN 2

SEALS SAFE

NOVATEX SLIT TAPE—for supreme protection in insulation:

1. Available in 1/16" and 1/32" thickness.
2. NOVATEX slit tape is SEALS SAFE resin treated for minimal fiber emission.
3. Replaces ASTM Grades Commercial, Underwriters', AA, AAA.

NOVATEX TUBING—superior heat resistant flexible sleeving.

Available in 1/16" wall.

2. SEALS SAFE resin treatment can be applied to NOVATEX tubing on request for minimal fiber emission.
3. Replaces ASTM Grades Commercial, Underwriters', AA, AAA.

NOVATEX YARNS—The ultimate, high tensile, high temperature ASTM Grade AAAA asbestos yarns.

1. Variety of inserts available: Monel, Inconel, NOMEX*, brass, phosphor bronze, stainless steel etc.
2. SEALS SAFE resin treatment can be applied to NOVATEX yarns on request for minimal fiber emission.

3. Replaces ASTM Grades Commercial, Underwriters', AA, AAA.

Available for many braiding and weaving applications:

- High temperature braided packings
- Papermaker Dryer felts
- High Pressure Steam Hose Yarn
- High Temperature Insulated Wire

NOVATEX SEWING THREAD—the definitive high temperature sewing thread.

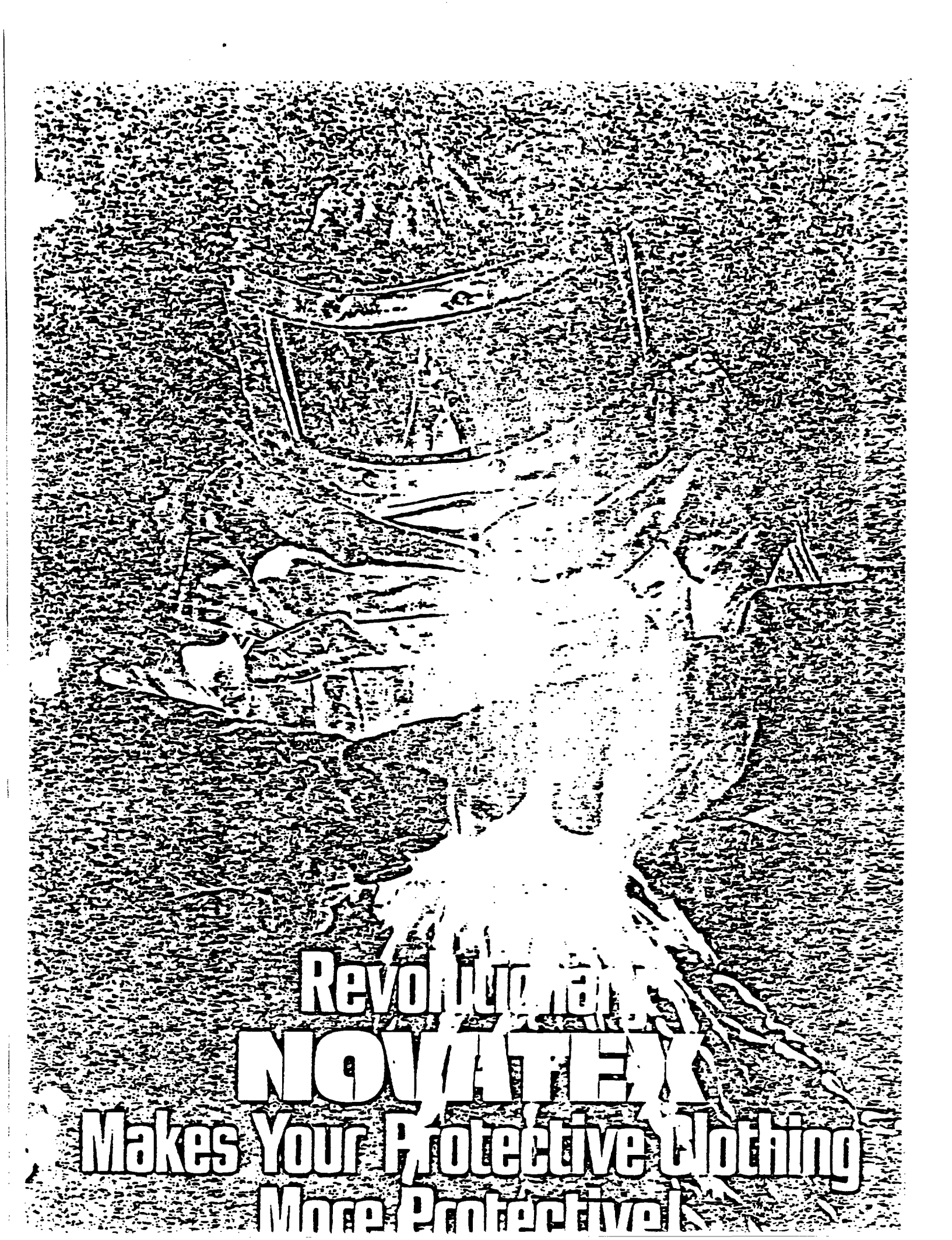
1. High yield.
2. High tensile.
3. Uniform smooth surface.

Five Types— Safer and More Versatile

NOVATEX products have a higher tensile strength than any conventional asbestos textile at equal weights. They're ASTM Grade AAAA—99 to 100% asbestos.

* DuPont Registered Trademark.

Raybestos Manhattan Industrial Products Company



Revolutionary
NOWATEX

Makes Your Protective Clothing
More Protective

Raybestos Manhattan's new NOVATEX The best asbestos for protective clothing.

THE PATENTED NOVATEX PROCESS:

NOVATEX process is a new technique of forming asbestos yarns. They are extruded wet, through a nozzle, instead of formed dry. Unlike conventional methods where the yarn forming process involves mechanical opening, blending, carding and spinning, NOVATEX yarns are formed by an extrusion process from a wet slurry dispersion. NOVATEX yarns are ASTM Grade AAAA (99-100%) asbestos. They represent a technological breakthrough in the asbestos textile industry.

From these yarns are made the family of NOVATEX asbestos textiles. Cloth, tapes, tubings, yarns and threads are manufactured for sale to a variety of markets. Most of the NOVATEX products are acrylic treated and dried for reduced dust emissions. When this occurs, they are then called SEALS SAFE products and help you comply with the OSHA standard regarding asbestos (See Table 1).

NOVATEX VS. CONVENTIONAL TEXTILES.

NOVATEX garment cloths are lighter, stronger and have a higher insulating value than old-fashioned conventional textiles:

	NOVATEX vs. Conventional		
	9P134N	7P150N	L-71-1133
Weight (p/sq/yd)	1.34	1.50	2.35
Tensile (lbs.)	W F 225 X 125	W F 225 X 120	W F 145 X 55
Abrasion* (cycles)	780	650	450
Temperature (limit)	900°F	900°F	450°F
K-Factor**	.7	.7	1.0

*Tested on Wyzenbeck tester, material changed every 300 cycles.

**The lower the K-Factor, the greater the insulating value.

TABLE 1

SEALS SAFE NOVATEX AND OSHA

SEALS SAFE NOVATEX textiles help you and your customers comply with the OSHA standard concerning asbestos.

SEALS SAFE—OUR ACRYLIC RESIN TREATMENT

CLOTH TESTS

Comprehensive tests* were conducted in an independent laboratory to measure airborne concentrations of fibers. The tests were performed on an untreated conventional cloth (L-71-1133), a SEALS SAFE conventional cloth (L-71-1133) and a SEALS SAFE NOVATEX cloth. The results** are as follows:

Description	R/M L-71-1133 (Untreated For Test)		R/M SEALS SAFE L-71-1133		NOVATEX SEALS SAFE R/M 9P135N	
	1st Hr.	4th Hr.	1st Hr.	4th Hr.	1st Hr.	4th Hr.
Range	4.6	2.5	2.4	1.6	1.7	1.5

*The results demonstrate the relative release of fibers by fabrics when subjected to the stresses as applied in the laboratory tests. Copies of test results available upon request to Raybestos Manhattan Industrial Products Company, North Charleston, South Carolina 29406.

PROTECTIVE GARMENTS

1. SEALSAFE NOVATEX CLOTHS FOR GLOVES AND MITTENS

Strong, lightweight gloves and mittens made of SEALSAFE NOVATEX cloth. High abrasion, excellent seam strength for longer life. We offer two cloths for specific applications. 9P134N for traditional usages, 7P150N for extended life and endurance. NOVATEX sewing thread enhances the final product.

2. SEALSAFE NOVATEX CLOTHS FOR GARMENTS

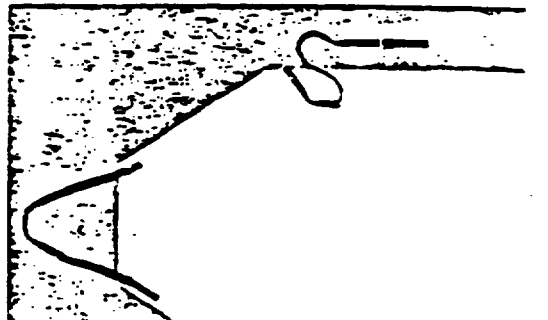
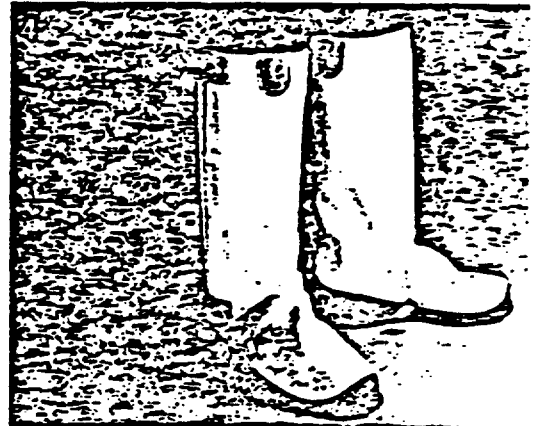
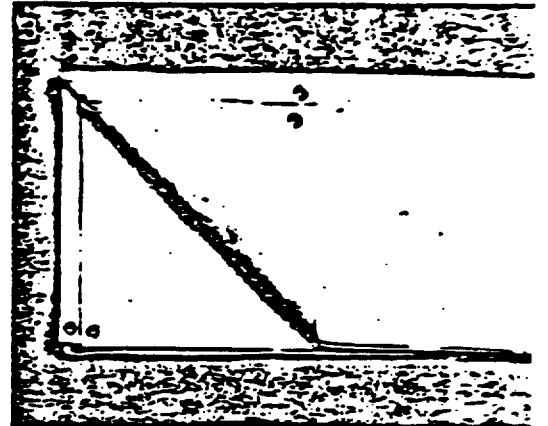
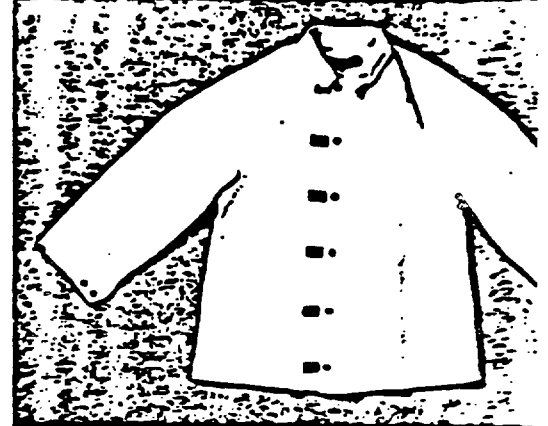
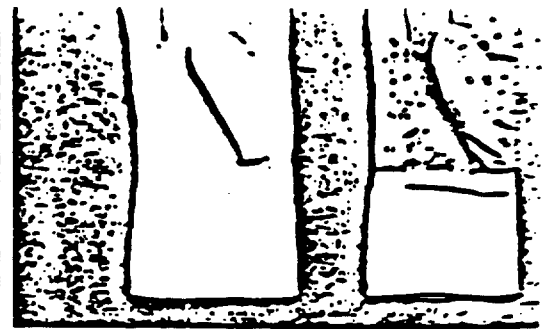
SEALSAFE NOVATEX cloth offers the garment wearer lighter weight with greater protection than conventional asbestos. Fabrication is easier, due to lighter weight and faster sewing. NOVATEX cloths are suited for aluminizing in the 3-M heat bank applicator. NOVATEX sewing thread enhances the final product.

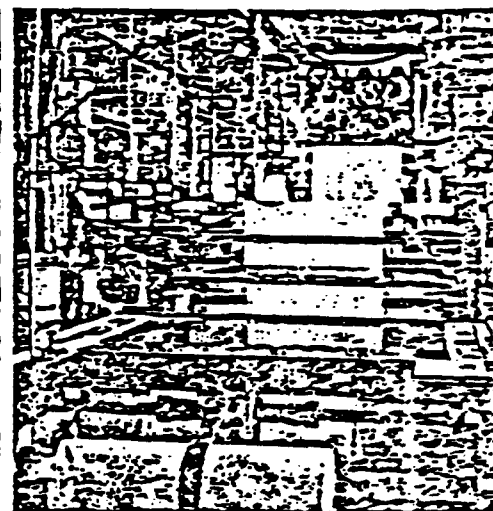
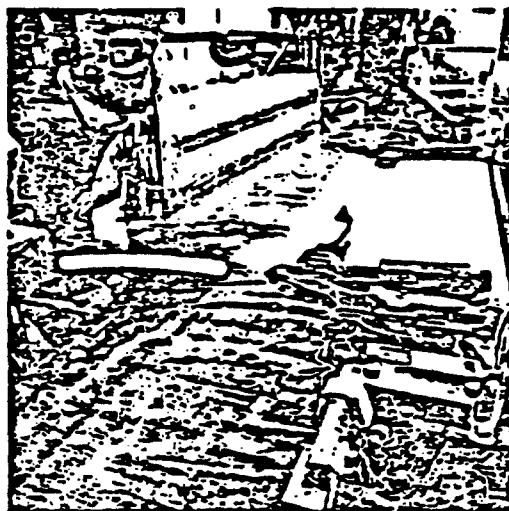
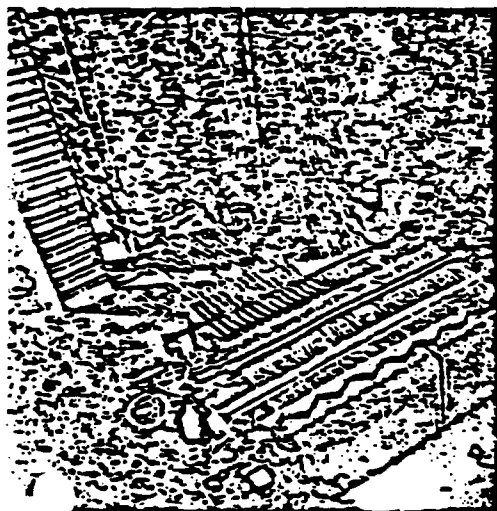
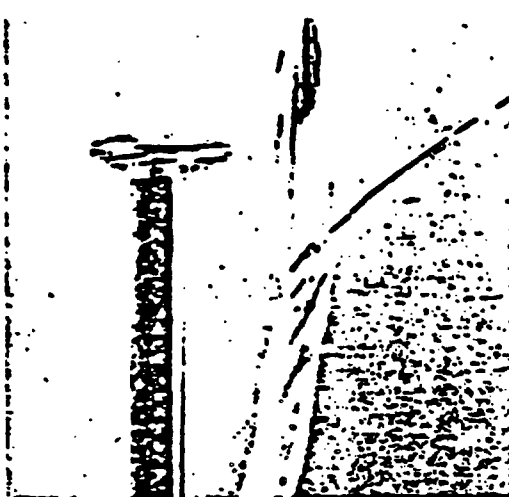
3. SEALSAFE NOVATEX CLOTH WELDING APPLICATION

ASTM grade AAAA SEALSAFE NOVATEX fabrics are used in applications up to 900° F. They are abrasion resistant and offer longer life due to lighter weight with little tendency to snag or tear in use. Arc-Air Welding? Use neoprene coated NOVATEX cloth.

4. & 5. SEALSAFE NOVATEX CLOTH FOR OTHER BODY WEAR

When the worker wears other body wear made of SEALSAFE NOVATEX cloths, he is protected by lighter, stronger fabric than the old-fashioned conventional asbestos. Good seam strength, high abrasion offer longer life. NOVATEX sewing thread enhances the final product.





RAYBESTOS MANHATTAN

**NOVATEX—The best asbestos,
the next asbestos.**

Call us today. We'll arrange a no-
obligation meeting with a Raybestos
Manhattan representative and you
can explore the profit potential of
NOVATEX products in your protective
equipment operations.

1. Microphotography shows a chemical preparation of mineral fibers as small as .000025" in diameter.
2. A .002 inch Inconel wire strand is directly inserted in a fine NOVATEX yarn. Shown compared to the head of a common pin.
3. 100% Asbestos NOVATEX yarns are created in a new chemical process plant.
4. NOVATEX yarns are beamed to feed high speed looms.
5. A new loom operates at high speeds for specially woven fabrics.
6. NOVATEX cloth becomes SEALSAFE NOVATEX cloth with addition of acrylic resin. This treatment assures reduced dust emission.

Raybestos Manhattan Industrial Products Company

A Division of Raybestos [Logo] Manhattan, Inc.

100 West Street, New York, N.Y. 10038 • 212-368-1000 • 212-368-1001

TRI-BESTOS[®] penny-pinching, rugged, new asbestos textile

Abrasion resistant, strong, lint-free — that just about says it all for TRI-BESTOS, the new asbestos fabric developed by R/M.

For fabricators of gloves, mitts and similar heat-protective garments, TRI-BESTOS offers new opportunities to produce the best products at competitive prices.

TRI-BESTOS is closely woven of specially designed Underwriter's Grade yarn to provide the high tensile strengths required for rugged use in elevated temperature industries such as steel, glass and cement. Tough, abrasion-resistant, TRI-BESTOS is specially treated for lint-free performance.

To find out more, call in your R/M salesman. He has very attractive samples to show you. Price and delivery information, too.



Raybestos[®] Manhattan

• Rider F

- A. In or about 1929, Raymark became aware of a reported relationship between exposure to asbestos dust, in certain asbestos products manufacturing operations, and certain adverse health effects if excessive amounts of asbestos fibers were inhaled. The reports originated in England and pertained to exposures in British asbestos textile manufacturing plants. It is believed that the source of the information was the "Report of Effects of Asbestos Dust on the Lungs and Dust Suppression in the Asbestos Industry" by E.R.A. Merewether and C.W. Price, published in 1930. It is unknown from whom this information was received and to whom it was directed.

Shortly after becoming aware of the alleged relationship, in approximately 1929, Raymark commissioned the Metropolitan Life Insurance Company to survey its plants and make recommendations for the elimination of conditions that might present health hazards. The Metropolitan studies concerned only occupational exposure in Raymark manufacturing operations, which are quite dissimilar from conditions that occur during installation of Raymark products sold for use by insulation mechanics. In other words, the tests dealt with exposures that were significantly higher and over longer periods than those to which insulation workers were thought to be subject in the installation of Raymark's products marketed for use by insulation mechanics. The results of this study, "Effects of Asbestos Dust on the Lungs of Asbestos Workers," were published by Dr. A. J. Lanza, et al. in Public Health Reports (Jan. 4, 1935). It is believed that this was the first study conducted in the United States which reported a relationship between exposure to asbestos in manufacturing plants and the disease of asbestosis in plantworkers.

In 1936, Raymark, in cooperation with several other asbestos products manufacturers, made arrangements to have a study conducted by the Trudeau Foundation at Lake Saranac, N.Y. to determine the relationship, if any, between pulmonary pathologies and asbestos dust exposure. These studies were limited to experiments with animals. Results of these studies are contained in a paper entitled, "Experimental Studies of Asbestosis" by Arthur Vorwald, Thomas Durkan, and Philip Pratt. The paper was published in AMA Archives of Industrial Hygiene and Occupational Medicine, January 1951, Volume 3, pages 1-43.

In 1947, Raymark participated in an industry study conducted by Industrial Health Foundation, Pittsburgh, Pa. under

sponsorship of the Asbestos Textile Institute of Philadelphia, Pa. to determine the nature and magnitude of the asbestos/health problem in asbestos textile manufacturing operations. The scope of these studies did not extend to asbestos-containing products or health hazards associated with their use or application. Raymark also participated in fibrous dust studies conducted by the Industrial Health Foundation from 1968 through 1970 and contributed \$20,000 to these studies. To the best of its knowledge, Raymark does not have a copy of the final report from these studies. However, copies of several progress reports exist.

It was not until late 1964, when Dr. Irving J. Selikoff, et al. made public the contents of a paper entitled, "The Occurrence of Asbestosis Among Insulation Workers in the United States," by I.J. Selikoff, et al., published in the Annals of New York Academy of Sciences, Vol. 132, Art. 1 (Dec. 1965), that the asbestos industry or the scientific or medical world perceived that there was a potential hazard to the health of those working with and/or installing and/or applying finished industrial insulation products. Prior to that time, the only health hazards thought to be associated with asbestos concerned workers in factories continuously exposed to high levels of airborne respirable fibers generated from working with pure or almost pure asbestos over long periods of time.

Rider F

- A. Raymark has been named as a defendant in a number of lawsuits in which plaintiffs allege personal injuries as a result of exposure to asbestos products manufactured by Raymark, among others. To the extent the interrogatory seeks additional information, it is objected to as being overly broad, seeking information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence and because it is unduly burdensome and oppressive.

Rider H

- A. Prior to 1976, Raymark did not have a central office or department dealing with medical research. However, from October 1976 through January 1981, Raymark employed Dr. Hilton C. Lewinsohn as its Corporate Medical Director. Dr. Lewinsohn was responsible for supervising and coordinating medical surveillance programs at all Raymark facilities and provided professional guidance and assistance in the administration of a corporate industrial hygiene program. In addition, he participated in various medical and scientific programs relating to occupational health and was involved in research activities on the biological effects of asbestos both in this country and abroad. Currently, Raymark's corporate medical program is supervised by David M. Gioiella, a Certified Industrial Hygienist hired in September, 1981 as Director of Raymark's Health and Safety Department. Both Dr. Lewinsohn and Mr. Gioiella reported to John H. Marsh, Director, Environmental and Government Affairs for Raymark.

Although there is no separate medical department, there are individuals who have acted in a medical advisory capacity to Raymark in the past. Also, some Raymark plants have maintained medical departments or dispensaries. Raymark is not aware of the exact dates on which these facilities were established at Raymark's various plants. Occupational health programs by medical personnel have been conducted at each major Raymark manufacturing facility. Programs have included pre-employment and routine periodic physical examinations, including annual chest x-rays, medical treatment of occupational injury and illness and medical record keeping. At smaller Raymark facilities where full time medical personnel are not employed, medical surveillance is provided by local physicians.

Rider I

-
- A. Prior to 1976, Raymark employed no chief medical officer. Dr. Hilton C. Lewinsohn served as Raymark's Corporate Medical Director from October 1976 until January 1981. Dr. Lewinsohn, hired by John H. Marsh, Director of Environmental and Government Affairs, was responsible for evaluating, developing, supervising and coordinating medical surveillance programs at all company facilities and provided professional guidance and assistance in the administration of Raymark's corporate industrial hygiene program. He also participated in various medical and scientific programs relating to occupational health and was involved in research activities on the biological effects of asbestos. Among the reasons that Raymark hired a medical director were to develop a uniform corporate-wide medical program to be followed at all Raymark facilities and to provide professional guidance and assistance in the administration of a corporate hygiene program.

Currently, Raymark's corporate health program is supervised by David M. Gioiella, a Certified Industrial Hygienist, hired by Raymark in September 1981 to serve as Director of Raymark's Health and Safety Department.

Rider J

- A. In September of 1977, John H. Marsh, Raymark Director of Environmental and Government Affairs, 100 Oakview Drive, Trumbull, Connecticut, 06611, hired Raymark's first industrial hygienist, John O. Pearson, who is presently employed by Raymark in that capacity. Prior to that date, Raymark never employed a certified industrial hygienist on its company payroll, but from time to time Raymark used its technical personnel at various plants to perform air monitoring tests.

Raymark hired Mr. Pearson to assist in the development and coordination of its corporate industrial hygiene program. Mr. Pearson's duties are to work with and advise plant production management with respect to safe working practices and monitoring procedures and to work with the Corporate Research Laboratory, Stratford, Connecticut, to expand in-house analytical capabilities and to make industrial field surveys and provide consulting services to corporate management, plant management, ventilation contractors, design engineers and others pertaining to the effectiveness of proposed or existing systems for controlling hazardous materials in Raymark facilities.

In September of 1981, Raymark hired David Gioiella, also a Certified Industrial Hygienist, as Director of Raymark's Health and Safety Department.

Rider K

- A. Raymark objects to this question because it is overly broad and seeks information which is neither relevant nor reasonably calculated to lead to the discovery of admissible evidence. In addition, the question is vague and ambiguous in failing to define the terms "recommendations and/or suggestions."

* * *

From time to time, suggestions have been made cautioning against excessive exposure to asbestos dust in manufacturing operations. Such suggestions were received from Dr. J. L. Goodman, Plant Physician at Raymark's former facility in North Charleston, South Carolina. In addition, John H. Marsh, Raymark's Director, Environmental and Government Affairs and Dr. Hilton C. Lewinsohn, Raymark's former medical director, have made numerous recommendations concerning the operations of Raymark's manufacturing facilities and maintenance of healthful working conditions. Both Mr. Marsh and Dr. Lewinsohn contributed to the design and implementation of the corporate-wide occupational health program, which is in part based on observations made during visits to manufacturing facilities. In addition, John Pearson, Raymark's Corporate Industrial Hygienist, regularly visits Raymark's various manufacturing facilities and makes recommendations as necessary.

Rider L

- A. For many years, Raymark has collected miscellaneous documents, journals, articles, and books pertaining to the effects of asbestos upon human health. These materials have been gathered and maintained over the years by a number of individuals and are currently maintained by John H. Marsh, Director of Environmental and Government Affairs and by Raymark's Health and Safety Department.

Raymark subscribes to the following publications, most of which from time to time contain information or articles concerning asbestos: Archives of Environmental Health, Lancet, British Medical Journal, Annals of Occupational Hygiene, Occupational Health and Safety, Medical News Digest, British Journal of Industrial Medicine, Chest, Environmental Research, American Journal of Medicine, New England Journal of Medicine, Asbestos Journal of Occupational Medicine, Science, Toxic Material News, OSHA Compliance Letter, Federal Register, Environmental Health Letter, Occupational Health & Safety Letter, Environmental Issues, Occupational Hazards, National Safety News, American Industrial Hygiene Association Journal, Industrial Hygiene Digest, Journal of the Air Pollution Control Association, Environmental Science and Technology, Science News, Bureau of National Affairs Occupational Safety & Health Reporter, Environment, Environmental Health Letter, Water Pollution Control Federation, Business Insurance, Wall Street Journal, Pollution Engineering, and Bureau of National Affairs Chemical Regulations Reporter.

Rider m

- A. Raymark has held membership in numerous institutes, associations, and organizations. Among these are:

Air Pollution Control Association
4400 Fifth Avenue
Pittsburgh, Pa. 15213

1970 - present

American Industrial Hygiene
Association
66 S. Miller Road
Akron, Oh. 44313

1974 - present

American Society for Testing
& Materials
1916 Race Street
Philadelphia, Pa. 19103

1940 - present

Asbestos Information Association/
North America
1835 K Street, N.W.
Washington, D.C. 20006

1970 - present

Asbestos Textile Institute
P.O. Box 471
131 N. York Road
Willow Grove, Pa. 19090

1944 - 1981

Automotive Parts Rebuilders
Association
6849 Old Dominion Drive
McLean, Va. 22101

pre-1967 - present

Automotive Service Industries
Association
230 N. Michigan Avenue
Chicago, Ill. 60601

1960 - present

Brake Lining Manufacturers Association Dissolved in 1949	Approx. 1930-1949
Fluid Sealing Association (formerly Mechanical Packing Assn.) 2017 Walnut Street Philadelphia, Pa. 19103	1933 - 1974, Feb. 1977-present
Friction Materials Standards Institute Inc. Bergen Mall Office Center E. 210 Route 4 Paramus, N.J. 07652	1949 - present
Grinding Wheel Institute 2130 Keith Building Cleveland, Oh. 44115	1951 - 1971
Industrial Health Foundation, Inc. (formerly Industrial Hygiene Foundation of America) 5231 Centre Avenue Pittsburgh, Pa. 15232	1937 - 1957, 1968 - present
National Association of Manufacturers 277 Park Avenue New York, N.Y. 10017	1915 - present
National Safety Council Box 11171 Chicago, Ill. 60611	1936 - present
Organization Resources Counselors Inc. 1625 I Street, N.W. Washington, D.C. 20006	1974 - present
Rubber Manufacturers Association 1901 Pennsylvania Ave., N.W. Washington, D.C. 20006	Approx. 1930- present
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