WALK-THROUGH SURVEY

of

The Glastic Corporation
4321 Glenridge Road
Cleveland, Ohio 44121

Date of Report

Preliminary - November 1, 1977
Final - November 28, 1977

Industrywide Studies Branch
Division of Surveillance, Hazard Evaluations, and Field Studies
National Institute for Occupational Safety and Health
Cincinnati, Ohio

PLACE VISITED:	The Glastic Corporation 4321 Glenridge Road Cleveland, Ohio 44121
DATE OF VISIT:	March 10, 1977
PERSONS MAKING VISIT:	Ronald J. Young Industrial Hygienist Theodore J. Meinhardt Epidemiologist Steven A. Miller Vice-Chairman Retrospective Studies Task Force Committee on Occupational Safety & Health Reinforced Plastics Composite Institute The Society of Plastic Industries
PERSONS CONTACTED:	Roger L. Glander Director of Personnel Robert Bosan Safety Director and Plant Engineer Betty Williams Recording Secretary OCAW Local 7622 Thomas Custer Manager Molding Compound Development
PURPOSE:	1) To become familiar with reinforced plastic processes 2) To ascertain the feasibility of conducting a retrospective cohort mortality study
REPORT WRITTEN BY:	Ronald J. Young Theodore J. Meinhardt

INTRODUCTION

The Industry-Wide Studies Branch of the National Institute for Occupational Safety and Health has initiated an environmental-epidemiologic study of styrene. On March 10, 1977, an industrial hygienist and epidemiologist conducted a walk-through survey of the Glastic Corporation located in Cleveland, Ohio. The purpose of the survey was twofold:

- Familiarization with reinforced plastic processes
- Ascertain the feasibility of conducting a retrospective cohort mortality study.

PLANT DESCRIPTION AND HISTORY

The Glastic Corporation was legally incorporated in the fall of 1945 with actual plant operations beginning in 1946. The original plant was located on East 40th Street and moved to its present location in 1955. The current building was expanded in 1958, 1964, and 1974. These expansions are shown in Figure 1. The company manufactures glass reinforced polyester plastics which are used primarily for electrical insultation materials. They also make a polyester pre-mix material for their own use and sale. Three processes are used:

1) Laminant molding (40%)

2) Contour molding (15%)

3) Pultrusion

These processes are shown schematically in Figures 2, 3, and 4. Major raw materials are tabulated in Table I. Current employment totals 270.

RECORD ASSESSMENT AND FEASIBILITY OF EPIDEMIOLOGIC STUDY

This plant has retained all of its personnel records since operations began in 1945. There are currently about 183 hourly employees at the facility. This number has evidently been expanded from an original of approximately 30 to 40 workers. The current work force is about 40% female and 33% non-white. All employees are full time except for a few summer employees.

Personnel records were reviewed and apparently contain all necessary demographic information on all employees that have worked at the facility. Medical examinations are given to all workers prior to employment. These examinations are done by the Euclid Clinic Foundation medical staff and the subsequent reports are placed in the personnel folder.

Employment histories which document the occupational experience of workers and the date of personnel actions are available in the personnel records. The personnel office staff also indicated that additional sources of information on employees may be available from plant census, seniority list, and industrial record files. The major difficulty with choosing this worker population for an epidemiologic study is its extremely high turnover rate. We could not completely assess the extent of this problem but in a numerical sample of terminated records something like 90% of the employees worked less than six months. Many workers were employed only a few days, quitting with complaints of severe dermatitis and respiratory irritation.

ENVIRONMENTAL MONITORING

The company provided us with copies of all past environmental monitoring conducted in their facility. The information available is shown in Table II.

CONCLUSION AND RECOMMENDATIONS

1. Plant management and union personnel were extremely helpful and cooperative.

2. Before deciding on using this plant population for study, additional plants should be visited to insure we have an adequate picture of the styrene industry.

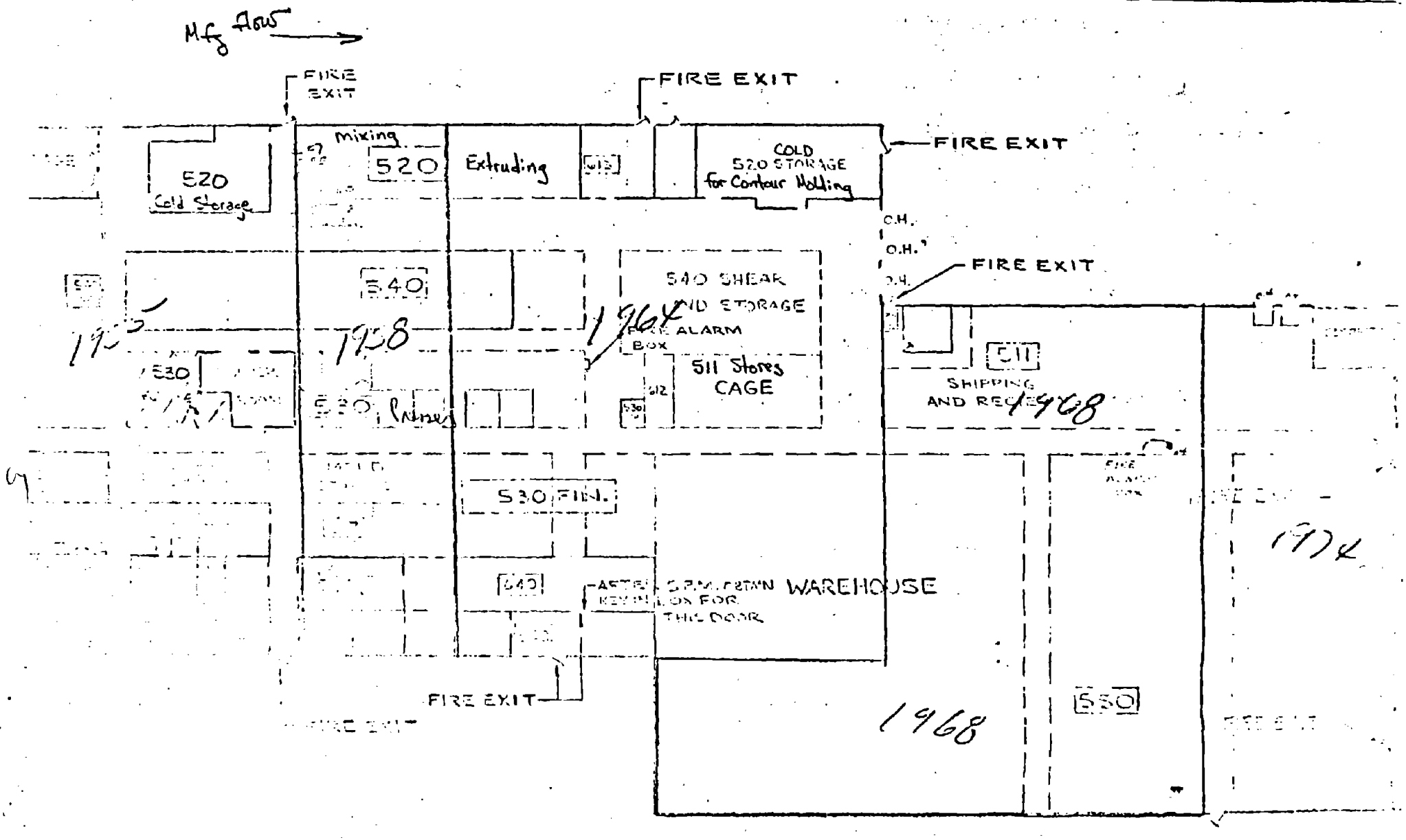
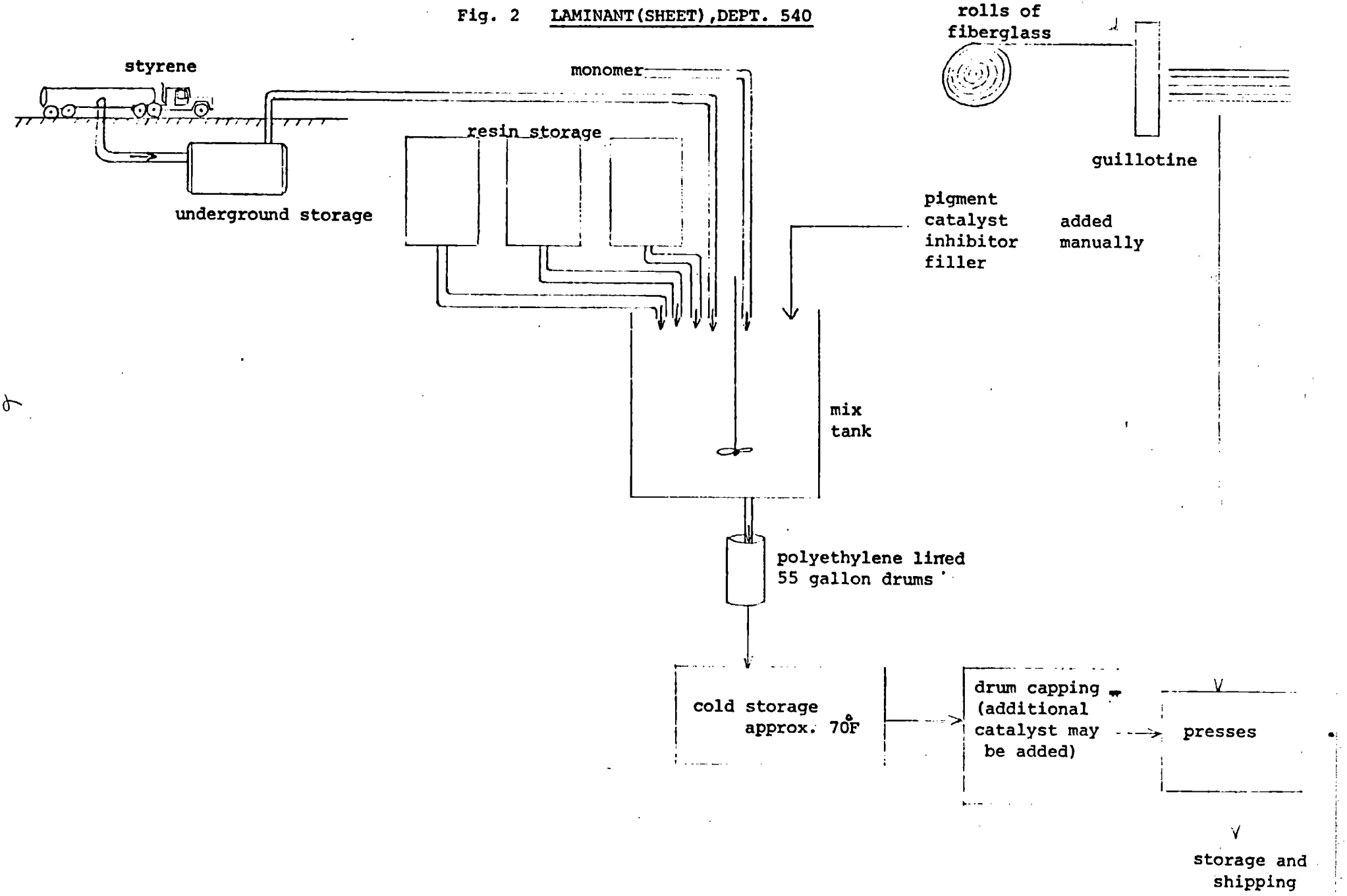


Figure 1

511 Shipping & Receiving (Warehousing)

Fig. 2 LAMINANT(SHEET),DEPT. 540



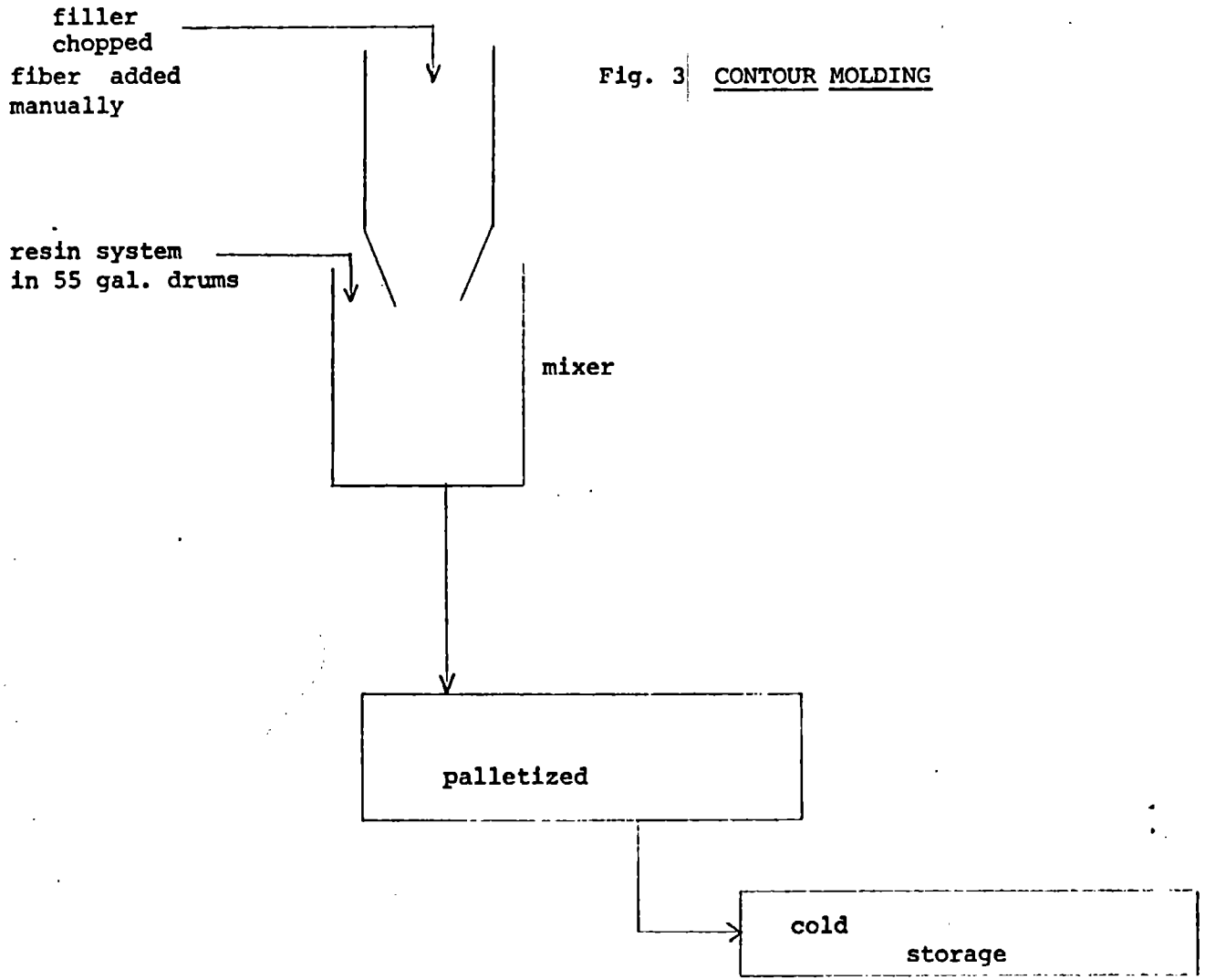


Fig. 3 CONTOUR MOLDING

Fig. 4 PULTRUSION PROCESS

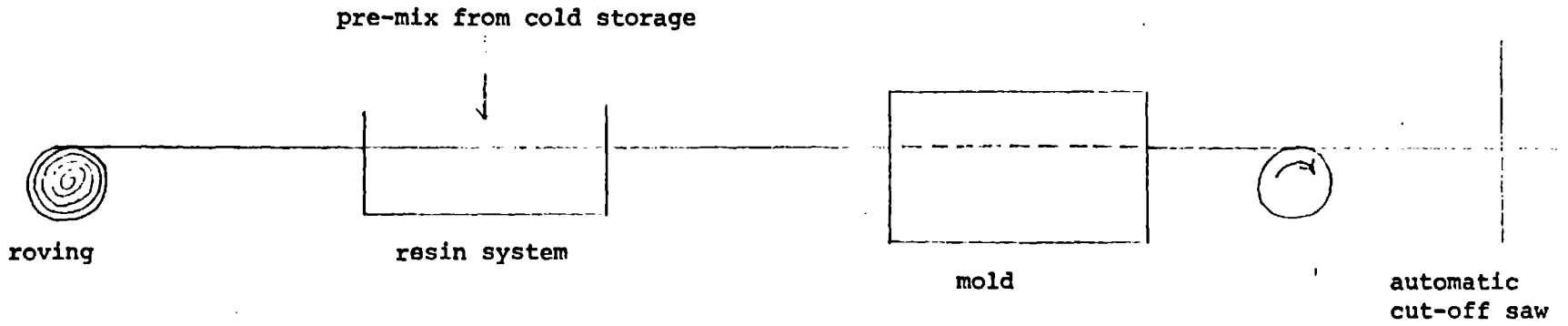


Table I

Major Raw Materials

1. Synthetic polyster resins -

   (solutions containing 75% synthetic polyester resin, 25% monomer)

   monomers - styrene vinyl toluene

2. Fiberglass
   mats
   chopped
   roving

3. Catalysts (organic peroxides)

4. Inhibitors
   parabenzoquinone
   dibutylparacresol

5. Fillers
   $CaCO_3$
   $Al_2O_3.(H_2O)_3$
   Clay
   Talc
   Cab-O-Sil

6. pigments
   Carbon black
   Fe_2O_3
   TiO_2
   ZnS

7. Mold-release agents
   metallics soaps, e.g. zinc stearate

8. Thermo-plastic modifiers
   polyethylene
   polystyrene

9. Monomer
   Styrene
   vinyl toluene
   methylmethacrylate
   diallylphthalate (small amt.)

Table II

Environmental Monitoring

Agency	Date	Contaminant Monitored
Industrial Commission of Ohio	May 1968	Dust counts, Styrene vapor
"	Nov. 1975	Benzene, Toluene, Xylene, Styrene, Benzyl Chloride, Quinone Formaldehyde, Hydrogen chloride, Carbon Monoxide
"	Feb. 1976	Acetone, benezene, styrene, vinyl toluene, cresol, total particulate, silica and chronate
"	Sept. 1972	Dust count, stryene
"	Nov. 1969	Dust counts, styrene, acetone, noise
Hutton Associates	July 1974	Fiberglass dust
"	Nov. 1974	Trichloroethane
OSHA	Sept. 1976	Dust, Styrene, Vinyl toluene