

1 IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
2 IN AND FOR THE COUNTY OF SAN FRANCISCO
3 HONORABLE DIANE ELAN WICK, JUDGE PRESIDING
4 DEPARTMENT NO. 611
5 ---000---
6 VICTOR TRINCHESE,) CASE NUMBER: 400787
7)
8 PLAINTIFF,)
9 -V-)
10 RAYBESTOS-MANHATTAN, ET AL)
11)
12 DEFENDANT(S).)
13) VOLUME 9 (PAGES 861-922)
14) A.M. SESSION
15)

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REPORTER'S TRANSCRIPT OF PROCEEDINGS
TUESDAY, JULY 16, 2002
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APPEARANCES:

FOR THE PLAINTIFF: PHILIP A. HARLEY, ATTORNEY
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REPORTED BY: BRENDA C. FIELDS
OFFICIAL REPORTER
CSR NUMBER 7235

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1 I N D E X
2 W I T N E S S E S
3 FOR THE DEFENSE: DIRECT CROSS REDIRECT RECROSS VOIR DIRE
4 MARTINO, CARLO
5 BY BRYDON 861 919
6 BY HARLEY 903 921
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1 TUESDAY, JULY 16, 2002 8:34 O'CLOCK A.M.
2 P-R-O-C-E-E-D-I-N-G-S
3 ---000---
4 THE COURT: GOOD MORNING, MEMBERS OF THE JURY.
5 THE RECORD SHOULD REFLECT THE TIME IS 8:34.
6 ALL 16 JURORS ARE PRESENT. COUNSEL ARE PRESENT.
7 MR. BRYDON, YOU MAY CALL YOUR NEXT WITNESS.
8 MR. BRYDON: YES, YOUR HONOR.
9 ON BEHALF OF DEFENDANT, UNION CARBIDE, WE WILL CALL CARLO
10 MARTINO.
11 THE COURT: MR. MARTINO, IF YOU'D STEP UP TO THE WITNESS
12 STAND, PLEASE.
13 THE CLERK: YOU CAN STEP AROUND TO THE CHAIR. RAISE YOUR
14 RIGHT HAND, PLEASE.
15 CARLO MARTINO,
16 CALLED AS A WITNESS IN THE ABOVE-ENTITLED MATTER, HAVING FIRST
17 BEEN DULY SWORN, TESTIFIED AS FOLLOWS:
18 THE CLERK: YOU CAN BE SEATED. PLEASE STATE AND SPELL
19 YOUR NAME FOR THE RECORD.
20 THE COURT: IF YOU WOULD STATE YOUR NAME AND SPELL IT FOR
21 THE RECORD, MR. MARTINO.
22 THE WITNESS: YES. CARLO, C-A-R-L-O. MARTINO,
23 M-A-R-T-I-N-O.
24 DIRECT EXAMINATION
25 MR. BRYDON Q. MR. MARTINO, WOULD YOU TELL THE LADIES
26 AND GENTLEMEN OF THE JURY WHERE YOU LIVE?
27 A. SUMMERVILLE, NEW JERSEY.
28 Q. AND YOU ARE A RETIRED GENTLEMAN; IS THAT CORRECT?

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1 A. YES; SIX YEARS.
2 Q. AND FROM WHERE DID YOU RETIRE SIX YEARS AGO?
3 A. UNION CARBIDE PLANT WHICH IS NOW A DOW PLANT.
4 Q. AND THAT WAS LOCATED WHERE?
5 A. IN PITTSKATAWAY (PHONETIC), NEW JERSEY.
6 THE COURT REPORTER: IN WHERE?
7 THE WITNESS: IN PITTSKATAWAY.
8 THE COURT REPORTER: SPELLING?
9 THE WITNESS: I DON'T KNOW. JUST PUT BOUND BROOK.
10 MR. BRYDON Q. SO THAT'S ONE OF THOSE SUBURBS OF THAT
11 BIG TOWN OF BOUND BROOK IS PITTSKATAWAY?
12 A. THAT'S RIGHT. THAT'S THE MAILING ADDRESS.
13 Q. AND HOW LONG DID YOU WORK FOR UNION CARBIDE?
14 A. ALMOST 48 YEARS.
15 Q. SO IF WE COULD SET THE TIMEFRAME, ABOUT WHAT YEAR DID YOU
16 GO TO WORK FOR THAT COMPANY?
17 A. 1948.
18 Q. AND YOU WORKED IN THAT COMPANY UNTIL ABOUT 1996?
19 A. THAT'S RIGHT.
20 Q. WOULD YOU JUST TELL THE JURY A LITTLE BIT ABOUT YOUR
21 EDUCATIONAL BACKGROUND?
22 A. I WENT TO HIGH SCHOOL IN A SMALL TOWN IN PENNSYLVANIA.
23 AFTER I GRADUATED, I WENT TO CARNEGIE MELLON TO GET A DEGREE
24 IN CHEMICAL ENGINEERING. THAT WAS IN 1944.
25 Q. DID YOU GO ALL THE WAY THROUGH FOUR YEARS TO GET YOUR
26 DEGREE?
27 A. NO. NO. IN 1945, I JOINED THE NAVY AND WAS TRAINED FOR
28 ONE YEAR AS AN ELECTRONICS TECHNICIAN'S MATE. IN FACT, I WAS

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1 STATIONED RIGHT HERE IN SAN FRANCISCO FOR ABOUT EIGHT MONTHS.
 2 Q. YOU ULTIMATELY DID GO BACK TO CARNEGIE AND GOT YOUR
 3 BACHELOR OF SCIENCE DEGREE; IS THAT CORRECT?
 4 A. YES. IT'S IN ENGINEERING.
 5 Q. AND ONCE YOU HAD THAT BACHELOR OF SCIENCE DEGREE IN HAND,
 6 DID YOU GO OUT AND TRY TO GET A JOB?
 7 A. YES.
 8 Q. AND WHERE DID YOU GO TO GET YOUR JOB?
 9 A. I HAD SEVERAL OFFERS BUT THE ONE THAT APPEALED TO ME MOST
 10 WAS A JOB OFFER FROM WHAT WAS THEN KNOWN AS THE BAKELITE
 11 DIVISION OF UNION CARBIDE. AND THEY PRIMARILY WORKED ON
 12 VARIOUS PLASTIC MATERIALS.
 13 Q. WOULD YOU TELL THE LADIES AND GENTLEMEN OF THE JURY WHEN
 14 YOU ARRIVED AT UNION CARBIDE IN ABOUT 1948, WHAT WAS THE
 15 BAKELITE DIVISION OF THAT COMPANY?
 16 A. DO YOU MEAN WHAT PRODUCTS WERE MADE THERE?
 17 Q. YEAH. JUST TELL THE JURY A LITTLE BIT ABOUT WHAT THE
 18 BAKELITE DIVISION OF UNION CARBIDE, WHAT THEY WERE DOING
 19 THERE? AND THEN I'LL ASK YOU WHAT THEY HIRED YOU TO DO.
 20 A. IT WAS PRIMARILY A MANUFACTURING FACILITY. AND THE
 21 RESEARCH LABORATORIES WERE IN BLOOMFIELD, NEW JERSEY.
 22 THEY HAD JUST STARTED MOVING THE RESEARCH AND DEVELOPMENT
 23 PEOPLE TO BOUND BROOK. THE NEW RESEARCH AND DEVELOPMENT
 24 BUILDING OPENED JUST ABOUT THE TIME I JOINED THE COMPANY.
 25 MY INITIAL ASSIGNMENT WAS AS A PRODUCTION TRAINEE. I WAS
 26 SUPPOSED TO BE IN THE PRODUCTION DEPARTMENT.
 27 AND I WAS TRAINED FOR ABOUT A YEAR, WHICH CONSISTED OF
 28 GOING FROM DEPARTMENT TO DEPARTMENT IN THE MANUFACTURING

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1 DEPARTMENT AND LEARNING EXACTLY WHAT WAS BEING DONE THERE.
 2 AND AT THAT LOCATION THEY MADE PHENOLIC RESINS AND
 3 PHENOLIC MOLDING MATERIALS, VINYL PRODUCTS. THEY WERE MAKING
 4 POLYSTYRENE. AND EVENTUALLY, THEY ALSO MOVED SOME
 5 POLYETHYLENE THERE. IT WAS ONE OF THE MAIN FACILITIES.
 6 Q. AND THESE ARE WHAT ARE GENERICALLY REFERRED TO AS
 7 PLASTICS?
 8 A. YES, THEY ARE.
 9 Q. THIS WAS A PLASTIC ARM OR DIVISION OF THE UNION CARBIDE
 10 CORPORATION BACK IN THE 1940'S THAT YOU JOINED INITIALLY TO GO
 11 IN AND WORK IN THE PRODUCTION ASPECT?
 12 A. THAT'S CORRECT.
 13 Q. WHAT EXACTLY DID THEY HIRE YOU TO DO? YOU WERE OUT OF
 14 COLLEGE. YOU'RE GETTING A JOB. WHAT WAS IT THAT YOU WERE
 15 INITIALLY GOING TO DO FOR THE COMPANY IN PRODUCTION?
 16 A. INITIALLY, THE INTENTION WAS THAT I WAS TO BE A PRODUCTION
 17 ENGINEER AND RECEIVE ASSIGNMENT IN ONE OF THE UNITS THERE.
 18 BUT THERE WAS A RECESSION IN 1949, AND THE COMPANY DECIDED
 19 THAT THEY DIDN'T NEED AS MANY PEOPLE FOR THE PRODUCTION AREA
 20 AS THEY ORIGINALLY THOUGHT THEY DID. AND THREE OF US WERE
 21 ASKED IF WE WOULD ACCEPT A POSITION IN THE RESEARCH AND
 22 DEVELOPMENT DEPARTMENT.
 23 AND I LIKED WHAT I SAW; SO I DID ACCEPT THE POSITION. AND
 24 I STARTED IN A PRODUCT GROUP IN THE POLYSTYRENE AREA.
 25 Q. AND DID YOU ULTIMATELY FIND YOURSELF WORKING IN THE
 26 RESEARCH AREA IN A DIFFERENT TYPE OF PRODUCT; THE BAKELITE
 27 LINE OF PRODUCTS?
 28 A. YES. WELL, AT THAT TIME BAKELITE WAS TRYING TO CAPITALIZE

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1 ON THE NAME BAKELITE. AND SO, THEY DECIDED TO CALL EVEN THE
 2 THERMO PLASTICS, WHICH ARE NOT REALLY, NOT TECHNICALLY
 3 BAKELITE PRODUCTS, BAKELITE BRAND PLASTICS, AND BAKELITE BRAND
 4 POLYETHYLENE, BAKELITE BRAND POLYSTYRENE.
 5 SO I THINK IT WAS ABOUT THAT TIME THAT EVEN POLYSTYRENE
 6 WAS SOMEHOW CONNECTED TO BAKELITE.
 7 Q. WELL, WHY DON'T WE DO THIS. THE JURY HAS HEARD FROM LOTS
 8 OF WITNESSES ABOUT BAKELITE BUT NOBODY THAT ACTUALLY WORKED
 9 WITH THIS MATERIAL.
 10 WOULD YOU TELL THE LADIES AND GENTLEMEN OF THE JURY WHAT
 11 BAKELITE WAS AS IT WAS MADE AT UNION CARBIDE IN -- LET'S START
 12 WITH YOUR TIMEFRAME, IN THE LATE 1940'S, WITH THE COMPANY?
 13 A. DO YOU WANT ME TO DESCRIBE WHAT BAKELITE IS?
 14 Q. YEAH. FIRST, JUST TELL THE JURY WHAT BAKELITE IS AND HOW
 15 IT DIFFERS, SAY, FROM JUST A NORMAL PLASTIC?
 16 A. WELL, BAKELITE IS A REGISTERED TRADEMARK FOR THE FIRST
 17 SYNTHETIC POLYMER THAT WAS EVER INVENTED.
 18 IT WAS INVENTED BY DOCTOR BAKELAND, AND THAT'S HOW WE GET
 19 THE BAKELITE. BAKELITE WAS DERIVED FROM HIS NAME. HE GOT HIS
 20 FIRST PATENT ON THAT MATERIAL IN 1910.
 21 NOW BAKELITE IS A POLYMER MADE FROM PHENOL AND
 22 FORMALDEHYDE. AND INITIALLY, THAT WAS ALL IT WAS INTENDED TO
 23 BE.
 24 WHAT DOCTOR BAKELAND DISCOVERED WAS A WAY OF REACTING THE
 25 PHENOL FORMALDEHYDE IN A WAY THAT YOU FORMED A LONG POLYMER
 26 CHAIN.
 27 NOW THINK IN TERMS OF A TYPICAL CHAIN WITH LINKS TOGETHER.
 28 WHAT HE SUCCEEDED IN DOING WAS FINDING A WAY OF GETTING EACH

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1 OF THESE RINGS, WHICH WOULD BE THE PHENOLIC GROUP, TO LINK TO
 2 ANOTHER PHENOLIC GROUP THROUGH THE FORMALDEHYDE UNITS.
 3 SO YOU HAD PHENOL, FORMALDEHYDE, PHENOL, FORMALDEHYDE IN A
 4 LONG CHAIN AND THAT HAD NEVER BEEN DONE BEFORE.
 5 PHENOL FORMALDEHYDE WERE AVAILABLE BACK IN THE 1800'S AND
 6 PEOPLE ALWAYS CAME UP WITH GUNK WHEN THEY TRIED TO REACT THEM.
 7 WELL, THAT WAS REALLY THE BEGINNING OF THE PLASTIC
 8 REVOLUTION.
 9 NOW IN THAT LONG LINEAR FORM, YOU REALLY HAVE A MATERIAL
 10 THAT CAN BE MELTED, AND THEN IF YOU LET IT COOL, IT WILL
 11 BECOME SOLID AGAIN BECAUSE IT'S A THERMO PLASTIC.
 12 AND IT WASN'T VERY USEFUL IN THAT FORM. SO WHAT HE ALSO
 13 DISCOVERED WAS THAT IF HE ADDED ANOTHER CHEMICAL, WHICH WE
 14 CALLED HEXA.
 15 Q. WHAT IS THAT?
 16 A. HEXA. HE FOUND THAT HEXA WOULD REACT WITH THE POLYMER AND
 17 LINK THESE LONG LINEAR CHAINS TO EACH OTHER. AND NOW YOU HAVE
 18 NOT JUST THESE LONG LINEAR CHAINS, WE HAVE A CROSSLINK FENCE
 19 AND THAT NOW IS A THERMOSET.
 20 YOU CAN'T MELT IT BECAUSE IT DOESN'T DISSOLVE IN ANYTHING
 21 AND IT ACTUALLY DOESN'T BURN; SUPPORT COMBUSTION. IT WILL
 22 CHAR.
 23 NOW THAT DID HAVE USEFUL PROPERTIES AND THEN THAT BEGAN
 24 THE -- TRIGGERED A SERIES OF EVENTS WHICH REVOLUTIONIZED THE
 25 INDUSTRY IN THE NEXT 25 YEARS.
 26 THE INITIAL APPLICATIONS WERE WITHOUT ANY FILLERS IN IT AT
 27 ALL.
 28 JEWELRY WAS A VERY -- ONE OF THE FIRST APPLICATIONS.

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1 IF YOU GO ON THE INTERNET AND DO A SEARCH ON BAKELITE, YOU
 2 GET A LOT OF REFERENCES TO PLASTIC BAKELITE JEWELRY.
 3 DENTURES. IN FACT, AT ONE TIME BAKELITE CORPORATION HAD A
 4 SUBSIDIARY CALLED THE BAKELITE DENTURE COMPANY.
 5 CIGARETTE HOLDERS. PIPE STEMS.
 6 THEN THEY FOUND SOME OF THE APPLICATIONS DIDN'T WORK OUT
 7 TOO WELL BECAUSE THIS CROSSLINK RESIN, EVEN THOUGH IT HAD SOME
 8 STRENGTH IN SOME APPLICATIONS LIKE LITTLE RADIO CABINETS, IT
 9 WAS NO STRONGER THAN, SAY, A GLASS COFFEE CUP. YOU DROP IT ON
 10 THE FLOOR, IT BREAKS.
 11 AND I THINK THAT'S THE TIME WHEN THE TERM CHEAP PLASTIC
 12 WAS STARTED.
 13 FORTUNATELY, THERE WERE SOME VERY INNOVATIVE ENGINEERS
 14 WORKING ON THE MATERIAL AND THEY DID DEFINE THAT IF YOU DID
 15 ADD SOME REINFORCEMENT TO THE PRODUCT, YOU COULD FURTHER
 16 EXTEND THE RANGE OF PROPERTIES THAT YOU COULD GET WITH IT.
 17 AND THEY ALSO FOUND THAT THE PHENOLIC RESIN WAS AN
 18 EXCELLENT GLUE. IT WOULD STICK TO ALMOST EVERYTHING. SO MOST
 19 OF THE APPLICATIONS THAT WERE DERIVED FROM IT WERE THE RESULT
 20 OF ITS EXCELLENT ADHESIVE CHARACTERISTICS.
 21 ONE OF THE APPLICATIONS THAT EVERYONE WOULD BE FAMILIAR
 22 WITH IS PLYWOOD. PHENOLIC RESIN IS USED TO GLUE THE VENEER
 23 SHEETS TO EACH OTHER AND IT HAS A VERY GOOD WATER RESISTANCE;
 24 SO IF YOU LEAVE THE BOARD OUT, IT'S NOT GOING TO FALL APART.
 25 ANOTHER APPLICATION WAS ADHESIVES. IT WAS BETTER THAN ANY
 26 OF THE OTHER ADHESIVES THAT WERE AVAILABLE THERE; SO IT WAS
 27 USED IN THE FURNITURE INDUSTRY AS AN EXCELLENT ADHESIVE.
 28 VARNISHES. IT WAS A NEW DIMENSION. IT WAS BETTER THAN

1 ANY OTHER VARNISHES THAT WERE ON THE MARKET; SO YOU END UP
 2 WITH MARINE VARNISHES AND VARNISHES FOR GYMNASIUM FLOORS, AND
 3 SO FORTH.
 4 Q. MR. MARTINO, WE'LL TALK ABOUT MORE SPECIFIC APPLICATIONS
 5 LATER ON IN TESTIMONY. BUT IF I UNDERSTAND WHAT YOU'VE
 6 DESCRIBED HERE IS THIS PHENOLIC AND FORMALDEHYDE COMBINATION
 7 DEVELOPED WHICH YOU CALLED A THERMOSET AS OPPOSED TO SOMETHING
 8 THAT WAS CALLED A THERMO PLASTIC?
 9 A. YES. I BETTER GO BACK. I MENTIONED THESE LONG LINEAR
 10 CHAINS. AS LONG AS YOU DIDN'T LINK THEM TOGETHER, THAT'S A
 11 THERMO PLASTIC. YOU CAN HEAT IT. IT MELTS. COOL IT, IT WILL
 12 BECOME A SOLID AGAIN. IF YOU MAKE A MISTAKE, YOU MELT IT AND
 13 MOLD IT ALL OVER AGAIN.
 14 BUT IF YOU DO ADD THE CROSSLINKING AGENT, YOU DO GET THIS
 15 CHAINLINK FENCE. AND THEN WHATEVER YOU GET MOLDED OUT OF IT,
 16 THAT'S IT. IF YOU MADE A MISTAKE, YOU JUST GRIND IT UP AND
 17 THROW IT AWAY.
 18 Q. THESE THERMO PLASTICS, IF YOU WERE TO PUT A MATCH TO A
 19 THERMO PLASTIC, WHAT WOULD HAPPEN?
 20 A. IT WILL MELT. THAT IS A VERY GOOD TEST. IF YOU ARE
 21 INTERESTED IN FINDING OUT IF ONE OF THE PLASTIC ARTICLES
 22 AROUND YOUR HOUSE IS A THERMO PLASTIC OR A THERMOSET, HEAT IT
 23 UP A LITTLE BIT.
 24 Q. IT MAKES KIND OF A STINKY MESS, I ASSUME?
 25 A. YES. BE CAREFUL. ALSO, IT WILL BURN. BE CAREFUL ABOUT
 26 THAT TOO.
 27 Q. THEN YOU TALKED ABOUT THIS THERMOSET, THIS PRODUCT OR
 28 MATERIAL THAT DOCTOR BAKELAND INVENTED? IF YOU TOOK THIS

1 PHENOL FORMALDEHYDE, THE HEXA, I THINK THAT YOU DESCRIBED IT,
 2 AND YOU PUT THAT TOGETHER WITH THIS CHAIN LINK, YOU GET A HARD
 3 MATERIAL. BUT WHAT HAPPENS TO THAT THERMOSET IF YOU TRY TO
 4 PUT A MATCH TO THAT?
 5 A. IT WILL CHAR BUT IT WON'T BURN.
 6 Q. IS THAT ONE OF THE SIGNIFICANT DISTINCTIONS BETWEEN THE
 7 THERMOSET TYPE OF PLASTICS AND JUST THE TRADITIONAL THERMO
 8 PLASTICS?
 9 A. WELL, THE TRADITIONAL DIFFERENCE IS ONE WILL MELT AND THE
 10 OTHER WILL NOT. THE PHENOLICS ARE UNIQUE IN THAT THEY DON'T
 11 SUPPORT COMBUSTION. THEY JUST CHAR.
 12 NOW SOME OF THE OTHER THERMOSETS WILL BURN. POLYESTER
 13 WILL BURN AND SUPPORT COMBUSTION. SO FORTUNATELY, PHENOLICS
 14 HAD BOTH CHARACTERISTICS.
 15 Q. YOU'VE TALKED ABOUT ADDING CHEMICALS TO MAKE THIS
 16 THERMOSET OR THIS MATERIAL THAT DOESN'T BURN. WE'RE NOT
 17 TALKING ABOUT ADDING THINGS LIKE WOOD FLOUR OR ASBESTOS AT
 18 THIS POINT; ARE WE?
 19 A. NO. I DIDN'T GET TO THAT POINT. DID YOU WANT ME TO GET
 20 INTO THAT?
 21 Q. NO. WE WILL GET THERE IN A WHILE. JUST TO UNDERSTAND
 22 THIS CONCEPT OF A HARD THERMOSET PLASTIC IS A COMBINATION OF
 23 CHEMICALS, SORT OF IN ITS PRISTINE STATE, THAT GENERALLY WILL
 24 NOT MELT AS OPPOSED TO OTHER KINDS OF PLASTICS THAT WOULD
 25 MELT?
 26 A. THAT'S CORRECT. AND IT ALSO HAS A VERY GOOD INSULATION
 27 CHARACTERISTIC. BOTH. WELL, PARTICULARLY ELECTRICAL
 28 INSULATION.

1 Q. NOW YOU HAD COMMENTED THAT IN TERMS OF THE HISTORY OF THIS
 2 INVENTION OF THIS MATERIAL, THAT DOCTOR BAKELAND PATENTED IT
 3 BACK IN 1910.
 4 WHEN YOU CAME TO UNION CARBIDE IN 1948 HAD IT ACQUIRED
 5 DOCTOR BAKELIN'S COMPANY? WAS IT PART OF UNION CARBIDE AT
 6 THAT TIME?
 7 A. YES, IT WAS. THE ACQUISITION OCCURRED IN 1939.
 8 Q. AND IN THE TIME THAT YOU CAME TO THE COMPANY, DID UNION
 9 CARBIDE OWN A PATENT ON THIS THERMOSET THAT YOU'VE DESCRIBED?
 10 MR. HARLEY: OBJECTION. LACKS FOUNDATION.
 11 THE COURT: DO YOU KNOW, SIR? JUST ANSWER YES OR NO.
 12 THE WITNESS: THE PATENT HAD EXPIRED IN 1927.
 13 MR. BRYDON Q. SO THERE WAS NO PATENT ON THIS PHENOLIC
 14 THERMOSET MATERIAL IN 1948 WHEN YOU CAME TO WORK IN THE
 15 BAKELITE DIVISION OF UNION CARBIDE?
 16 A. THAT IS CORRECT.
 17 Q. NOW AT THE TIME THAT YOU WENT TO WORK FOR UNION CARBIDE
 18 CORPORATION, THEY WERE MAKING THIS KIND OF PHENOLIC RESIN
 19 MATERIAL THAT WAS BEING SOLD TO MANUFACTURERS OF END USE
 20 PLASTICS; IS THAT CORRECT?
 21 A. YES. THERE WERE TWO BUSINESSES REALLY. THE ONE BUSINESS
 22 IN ONE SIDE OF THE PLANT JUST MADE RESINS, BOTH LIQUID AND
 23 SOLIDS. THE SOLIDS WERE GROUND INTO A FINE POWDER LIKE A
 24 FLOUR. AND THERE WERE NO FILLERS ADDED TO THAT. AND ALL OF
 25 THOSE WERE SOLD DIRECTLY TO CUSTOMERS WHO THEN TOOK AND MADE
 26 ALL THESE OTHER MATERIALS THAT I DESCRIBED EARLIER.
 27 THE OTHER SIDE OF THE PLANT WE HAD WHAT WE CALLED A
 28 MOLDING MATERIAL PLANT WHERE WE MADE RESIN, BUT THEN WE GROUND

1 IT AND ADDED OUR OWN FILLERS AND PROCESSED THEM THROUGH AND
2 CAME UP WITH WHAT IS KNOWN IN THE INDUSTRY AS PHENOLIC MOLDING
3 MATERIAL.

4 AND IT LOOKS -- YOU TAKE IT OUT OF A BAG. IT LOOKS LIKE A
5 BLACK OR A DARK BROWN COARSE SAND. AND THEN THAT IS SOLD TO A
6 MOLDER WHO THEN FORMS A VARIETY OF PARTS: ELECTRICAL PARTS.
7 YOU KNOW, STEAM IRON HANDLES, WASHING MACHINE AGITATORS.
8 THESE ARE TYPICAL. POT HANDLES, TOASTER END HANDLES.

9 A VARIETY OF AUTOMOTIVE PARTS. A VARIETY OF ELECTRICAL
10 PARTS. ANY COMPLICATED SHAPE THAT IF YOU MADE IT FROM A BLOCK
11 OF MATERIAL WOULD REQUIRE A LOT OF LABOR TO MACHINE THAT
12 SHAPE.

13 THE MOLDING PROCESS AND DOCTOR BAKELIN'S INVENTION ENABLED
14 US TO MAKE RADIO CABINETS, JUST LIKE THAT, AND REPLACE WOOD
15 THAT REQUIRED A LOT OF EXTRA HAND LABOR.

16 Q. LET'S GO BACK TO THE 1948/1950 TIMEFRAME. YOU HAVE COME
17 TO UNION CARBIDE. YOU'RE IN BOUND BROOK, NEW JERSEY.

18 I GUESS, JUST TO BE COMPLETE. BOUND BROOK, IS THIS NEAR
19 NEW YORK? IS THIS THE MIDDLE OF THE STATE? WHERE ARE WE
20 TALKING ABOUT?

21 A. IT'S IN THE MIDDLE OF THE STATE.

22 Q. OKAY. WE'RE IN THE MIDDLE OF NEW JERSEY. YOU'VE GONE TO
23 WORK FOR UNION CARBIDE. THEY ARE MAKING THESE PHENOLIC RESINS
24 AND PHENOLIC MOLDING COMPOUNDS AT BOUND BROOK.

25 IN THE UNITED STATES, WAS THERE ANYWHERE ELSE THAT UNION
26 CARBIDE WAS MAKING THOSE PRODUCTS WHEN YOU CAME TO WORK FOR
27 THEM?

28 A. THE PHENOLIC MOLDING MATERIALS WERE ALL MADE IN BOUND

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1 BROOK; NO PLACE ELSE. THE PHENOLIC RESINS WERE MADE AT ONE OF
2 THE OTHER PLANTS ON THE WEST COAST AND I DON'T KNOW WHETHER WE
3 MADE THEM AT MARIETTA OR NOT.

4 Q. BUT IN THE 1950'S WHEN YOU GO TO WORK AT UNION CARBIDE IN
5 BOUND BROOK, THERE'S A FACILITY THAT MAKES RESINS AND THERE'S
6 A FACILITY THAT MAKES MOLDING COMPOUNDS; IS THAT CORRECT?

7 A. THAT'S CORRECT.

8 Q. WOULD YOU TELL THE LADIES AND GENTLEMEN OF THE JURY WHAT
9 THE PHYSICAL LAYOUT WAS IN BOUND BROOK?

10 IN OTHER WORDS, WHAT WE'RE TALKING ABOUT; A NUMBER OF
11 PLANTS? HOW IS IT SET UP SO WE KNOW WHERE THESE MATERIALS ARE
12 BEING MADE?

13 A. WELL, EACH BUILDING HAD A NUMBER; AND, OF COURSE, THERE
14 WAS A MAP THAT YOU COULD REFER TO AS, YOU KNOW, WHERE THOSE
15 BUILDINGS WERE.

16 Q. WAS THERE A BUILDING THERE WHERE THEY MADE THE RESIN
17 MATERIALS?

18 A. YES.

19 Q. OKAY. COULD YOU JUST BRIEFLY TELL THE LADIES AND
20 GENTLEMEN OF THE JURY AT BOUND BROOK IN THE 1950'S, HOW WAS
21 THIS RESIN MADE?

22 A. THE RESIN WAS MADE IN A BIG STEEL KETTLE, HUGE. PROBABLY
23 SOME OF THE BIG STILL'S WE HAD WERE 4 FEET IN DIAMETER; AND
24 SOME SMALL STILL'S WE HAD IN THE LAB WERE MAYBE 18 INCHES IN
25 DIAMETER.

26 AND INSIDE THESE BIG VATS WAS AN AGITATOR. AND THESE HAD
27 CONDENSERS ON THE TOP TO TAKE GASES AND VOLATILES AND CONDENSE
28 THEM AND BRING THEM BACK INTO THE PROCESS.

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1 AND THE PHENOL FORMALDEHYDE WOULD BE FED INTO THESE VATS
2 TO GET THE OTHER REACTION.

3 AND AFTER THE REACTION WAS COMPLETED, YOU WOULD TAKE THIS
4 MOLTEN MASS THAT WAS IN THERE AND POUR IT OUT INTO BIG PANS
5 WHICH WERE PROBABLY ABOUT 4 FEET BY 8 FEET.

6 AND THE MATERIAL WOULD BE ALLOWED TO COOL IN THOSE PANS
7 AND WHAT IT WOULD LOOK LIKE WOULD BE AN AMBER COLORED GLASS
8 LIKE MATERIALS. MOST OF THE TIME IT WAS TRANSPARENT.

9 AND AFTER IT COOLED, IT WOULD BE BROKEN UP AND THEN FED TO
10 GRINDERS AND FORMED INTO A POWDER; OR IT WOULD BE DISSOLVED IN
11 A LIQUID AND SOLD AS A LIQUID RESIN. THAT WAS THE EXTENT OF
12 IT IN THE RESIN AREA.

13 Q. SO FOR A RESIN, IF SOMEBODY WAS MAKING A PRODUCT THAT THEY
14 WANTED TO USE THIS BAKELITE RESIN FOR, THEY WOULD GET IT
15 EITHER IN A BAG THAT HAD BEEN GROUND UP IN A GRANULAR FORM OR
16 THEY WOULD GET IT IN SOME KIND OF A LIQUID; CORRECT?

17 A. THAT'S RIGHT. I THINK THEY COULD ALSO GET THE POWDERED
18 MATERIAL IN A DRUM.

19 Q. BUT IT WAS EITHER IN A POWDER OR A LIQUID FORM?

20 A. RIGHT. AND THE LIQUID FORM WAS USUALLY SHIPPED IN A STEEL
21 DRUM.

22 Q. AND THIS KIND OF PRODUCT WOULD BE USED BY WHAT KIND OF
23 COMPANIES? WHAT KIND OF COMPANIES WOULD UNION CARBIDE BE
24 SELLING THE PHENOLIC RESIN MATERIAL TO?

25 A. THE PLYWOOD COMPANIES. THE LAMINATORS. THE COATING
26 MANUFACTURERS. ADHESIVES MANUFACTURERS. FOUNDRIES.

27 ONE OF THE USES WAS TO MIX THE PHENOLIC RESIN WITH SAND
28 AND FORM MOLDS, AND THEN THEY USED THOSE MOLDS FOR MOLTEN

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1 STEEL TO CAST A PART.

2 Q. YOU MENTIONED LAMINATORS. WOULD THESE BE THE KINDS OF
3 COMPANIES THAT IF THEY WANTED TO MAKE A PRODUCT OUT OF THIS
4 PHENOLIC RESIN MATERIAL, AND WAS TO DO IT IN A LAMINATED
5 FASHION, YOU WOULD BE A COMPANY THEY COULD BUY THAT PRODUCT
6 FROM TO MAKE, SAY, A LAMINATED BLOCK OR A LAMINATED BOARD?

7 A. YES. THEY WOULD BUY FROM US. SOME OF THE BIG ONES GOT IT
8 AND DECIDED THEY WERE BUYING SO MUCH THAT THEY STARTED MAKING
9 IT THEMSELVES. WESTINGHOUSE, FOR EXAMPLE, MADE LAMINATES AND
10 THEY ENDED UP MAKING THEIR OWN RESINS TOO.

11 Q. WE'VE TALKED ABOUT THE RESINS. THERE WAS ANOTHER BUILDING
12 THERE WHERE THE MOLDING COMPOUNDS WERE MADE?

13 A. YES.

14 Q. TELL THE LADIES AND GENTLEMEN OF THE JURY WHAT THE PROCESS
15 WAS AND HOW IT DIFFERED, IF AT ALL, FROM THE MAKING OF THE
16 RESINS? HOW WOULD A MOLDING COMPOUND BE MADE WHILE YOU WORKED
17 FOR THE BAKELITE DIVISION?

18 A. THE PRODUCTION OF RESINS IS PRETTY MUCH LIKE I DESCRIBED
19 IN THE OTHER BUILDING. BUT THEN, THAT POWDERED RESIN WOULD BE
20 FED UP TO A RIBBON BLENDER, A VERY LARGE RIBBON BLENDER, IN
21 POWDERED FORM.

22 AND IT WOULD BE MIXED WITH ALL THE OTHER INGREDIENTS WHICH
23 WERE ALSO IN POWDERED FORM. AND THIS BLENDER WOULD GET A VERY
24 UNIFORM MIX OF EVERYTHING.

25 THAT MIX THEN WOULD BE FED DOWN CHUTES TO TWO HOT ROLLS.
26 ROLLS ON OUR BIG UNIT WERE PROBABLY ABOUT EIGHT FEET LONG AND
27 ABOUT THREE FEET IN DIAMETER HEATED.

28 ONE ROLL WENT FASTER THAN THE OTHER AND THE MATERIALS

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1 WOULD COME DOWN IN THE MIDDLE OF THE TWO ROLLS AND THE
2 MATERIAL WOULD MELT AND STICK TO THE ROLLS AND AS IT WOULD
3 COME AROUND, GET MIXED RIGHT IN THE CENTER.

4 EACH MATERIAL HAD CERTAIN CONDITIONS THAT HAD TO BE RUN A
5 CERTAIN TIME, AND SO FORTH, AND THE OPERATOR HAD THOSE
6 INSTRUCTIONS.

7 AT A PARTICULAR TIME HE WOULD THEN PUT HIS FOOT ON A
8 HYDRAULIC SYSTEM THAT WOULD TAKE A KNIFE THAT LOOKED LIKE A
9 SCRAPER THAT WENT ALL THE WAY ACROSS THE ROLLS AND THAT WOULD
10 SCRAPE THE MATERIAL OFF THE ROLL AND FORM IT INTO A SHEET
11 WHICH WOULD FALL INTO A CONVEYER BELT RIGHT UNDER THE ROLL.

12 THAT SHEET WOULD THEN GO UP AND FALL INTO ANOTHER SET OF
13 ROLLS, JUST LIKE THE FIRST, AND IT WOULD BE REPROCESSED AGAIN
14 TO MAKE SURE THAT WE GOT EVERYTHING THOROUGHLY INCAPSULATED;
15 ALL THE FILLERS THOROUGHLY INCAPSULATED.

16 IT THEN WOULD BE TAKEN OFF THOSE ROLLS AND ANOTHER
17 CONVEYER. AND IT WOULD COOL AND GO UP ANOTHER CONVEYER UP
18 INTO A GRANULATOR.

19 THE GRANULATED MATERIAL WOULD THEN BE PUT THROUGH A SCREEN
20 AND THE COARSE PARTICLES TAKEN OFF AND THE FINE PARTICLES
21 TAKEN OFF. AND YOU GET SOMETHING RIGHT IN THE CENTER WHICH
22 WOULD DETERMINE BY EXPERIENCE AS TO WHAT WOULD BEST FIT THE
23 BROADEST RANGE OF APPLICATIONS OUT THERE.

24 THEN THAT SCREEN MATERIAL WOULD GO DOWN A CHUTE INTO A
25 PACKING STATION AND YOU WOULD PACK IT EITHER INTO A
26 POLYETHYLENE LINED BAG, FIFTY POUNDS, A FIBER DRUM THAT WOULD
27 HOLD TWO HUNDRED POUNDS, OR A BIG GAYLORD WHICH FIT ON A
28 PALLET WHICH WOULD HOLD A THOUSAND POUNDS.

1 LARGE USERS WOULD BUY THE PALLETS BECAUSE THEY WERE VERY
2 CONVENIENT TO MOVE AROUND AND THEY COULD AIRVEY, MOVE THE
3 MATERIAL WITH AIR INTO THE HOPPER OVER THE MACHINE.

4 Q. ALL RIGHT. YOU TALKED ABOUT IN THIS MOLDING PLANT THEY
5 WOULD TAKE THE MATERIAL THAT HAD BEEN MADE IN THE RESIN PLANT
6 AND THAT WOULD BE WHAT YOU WOULD START WITH TO MAKE THE
7 MOLDING COMPOUND WOULD BE THE GRANULATED MATERIAL THAT WAS THE
8 BASE RESIN. IS THAT THE FIRST PART OF THE PROCESS?

9 A. YOU'RE TALKING ABOUT OUR PROCESS OR THE MOLDING PROCESS?

10 Q. YOUR PROCESS.

11 A. OUR PROCESS. YEAH. WE WOULD MAKE THE RESIN IN THE
12 MOLDING MATERIAL DEPARTMENT BECAUSE, YOU KNOW, YOU COULD FEED
13 FROM ONE LOCATION TO THE OTHER VERY EASILY AND THEY MADE VERY
14 GOOD USE OF GRAVITY TO MINIMIZE THE NUMBER OF CONVEYER BELTS
15 AND AIRVEYING SYSTEMS. THAT'S WHY IT WAS DONE THERE.

16 Q. SO YOU GET THE RESIN MATERIAL AND THEN YOU DESCRIBE OTHER
17 MATERIALS THAT WOULD BE ADDED. WERE THEY NORMALLY CALLED
18 FILLERS?

19 A. YES.

20 Q. AND WERE THERE A VARIETY OF DIFFERENT KIND OF FILLERS THAT
21 COULD BE USED IN MAKING MOLDING COMPOUND IN THE '50'S, '60'S
22 AND UP UNTIL THE EARLY PART OF THE '70'S?

23 A. YES. ALMOST ANYTHING, YOU KNOW, YOU COULD ADD AND COME UP
24 WITH A FILLED SYSTEM. IT'S A QUESTION OF WHAT GAVE YOU SOME
25 USEFUL PROPERTIES THAT SOMEBODY WANTED.

26 THE MOST POPULAR, OF COURSE, WAS WOOD FLOUR. THAT WAS
27 WHAT WE STARTED WITH AND IT WAS THE LEAST EXPENSIVE AND THE
28 MOST WIDELY USED.

1 BUT WHERE WOOD FLOUR WASN'T GOOD ENOUGH, THEN WE HAD A
2 CHOICE OF A LOT OF OTHER FILLERS. IF YOU WANTED BETTER IMPACT
3 STRENGTH, YOU PUT IN COTTON FLOCK WHICH IS GROUND UP RAGS.
4 BUT IT STILL COST OVER 10 CENTS A POUND; SO IT WASN'T AS CHEAP
5 AS IT SOUNDS.

6 YOU COULD PUT IN TALC. MICA. SOME ASBESTOS WAS USED.
7 WOOL, ASTONITE (PHONETIC), CALCIUM CARBONATE, POWDERED COAL.

8 Q. ARE YOU FAMILIAR WITH THE TERM CALLED CELLULOSE FILLED?

9 A. YES.

10 Q. AND IS THAT SOMETHING THAT DESCRIBES THINGS THAT ARE MORE
11 ORGANIC, LIKE WOOD AND COTTON AND THOSE THINGS?

12 A. YES. CELLULOSE REFERS TO WOOD FLOUR AND COTTON FLOCK,
13 PRIMARILY.

14 Q. AND ARE YOU FAMILIAR WITH THE TERM CALLED MINERAL FILLED
15 IN THE MOLDING INDUSTRY?

16 A. YES. THAT WOULD APPLY TO ALL THE INORGANIC FILLERS THAT
17 WERE USED.

18 Q. AND BY INORGANIC FILLERS, YOU DESCRIBED ASBESTOS. WOULD
19 ASBESTOS BE ONE OF THE INORGANIC FILLERS?

20 A. YES.

21 Q. YOU TALKED ABOUT THIS CONCEPT OF MIXING AND TRYING TO GET
22 EVERYTHING COATED. WAS THIS ATTEMPT TO TRY TO GET ALL OF THE
23 FILLER MATERIAL COATED ANY DIFFERENT WITH RESPECT TO A
24 CELLULOSE-BASED FILLER AS OPPOSED TO A MINERAL-BASED FILLER,
25 SUCH AS ASBESTOS?

26 A. THEY WERE THE SAME. BECAUSE IN THE MOLDED PART, YOU WOULD
27 GET A VERY HIGH GLOSS SURFACE. IF THE PARTICLES -- IF ANY OF
28 THE FILLERS WERE NOT COATED, YOU WOULD AFFECT THE SURFACE OF

1 THE PRODUCT.

2 AND SO, YOU KNOW, WE WOULD PERFORM VISUAL QUALITY CONTROL
3 TESTS TO DETERMINE THAT WE COULD NOT SEE ANY SPECKS OF ANY OF
4 THE FILLERS, OR ANY CONTAMINATION, FOR THAT MATTER. AND IF WE
5 DID, THEN WE WOULD USE A MICROSCOPE TO FURTHER IDENTIFY WHICH
6 IT IS THAT DIDN'T PASS THE TEST. AND THEN THE MATERIAL WOULD
7 HAVE TO BE REPROCESSED IF IT DID NOT PASS THE TEST.

8 Q. WAS THIS HIGH GLOSS THAT YOU HAVE DESCRIBED SOMETHING THAT
9 WAS IMPORTANT TO CUSTOMERS OF THE MOLDING COMPOUND PORTION OF
10 THE BUSINESS?

11 A. IT REALLY DEPENDED ON THE APPLICATION. THE HIGH GLOSS WAS
12 NOT THE, YOU KNOW -- THE SURFACE APPEARANCE YOU GOT WAS A
13 RESULT OF WHAT THE SURFACE WAS LIKE IN THE MOLD THAT YOU MADE
14 THE PART IN.

15 YOU COULD GET A HIGH GLOSS SURFACE, IF YOU USED A VERY
16 HIGH POLISHED MOLD. YOU COULD GET A SATIN FINISH, IF YOU USED
17 A SATIN FINISHED MOLD. SO IF FOR A DECORATIVE APPLICATION,
18 SAY LIKE AN IRON HANDLE, MOST PEOPLE WANTED A HIGH GLOSS OR A
19 KNOB OR EVEN A POT HANDLE -- WELL, NOT A POT HANDLE, SOME
20 PEOPLE WANTED THAT DULL BUT YOU COULD GET A HIGH GLOSS.

21 MOST OF THE INDUSTRIAL PARTS WERE NOT HIGH GLOSS BECAUSE
22 THEY WERE HIDDEN INSIDE CABINETS. IT WASN'T THAT IMPORTANT.
23 AND OF COURSE, IT'S MORE EXPENSIVE TO HAVE A MOLD WITH HIGH
24 GLOSS AND IT SCRATCHES EASIER AND YOU HAVE TO GIVE IT MORE
25 MAINTENANCE.

26 Q. WHEN YOU'RE TALKING ABOUT THIS GLOSS, YOU'RE TALKING ABOUT
27 WHAT YOU'RE DOING TESTS FOR QUALITY CONTROL TO TRY TO SEE
28 WHETHER OR NOT YOU'VE GOT WHAT YOU HOPED FOR WHICH WAS TO GET

1 ALL THE FILLER MATERIAL COATED AND BOUND WITHIN THE RESIN?
 2 A. YES. HIGH GLOSS WOULD SHOW UP DEFECTS A LOT QUICKER THAN
 3 A DULL FINISH.
 4 Q. SO HOW WOULD YOU DO THESE QUALITY CONTROL TESTS?
 5 A. WELL, WE MOLDED A 4-INCH DISK. AND THERE WERE STANDARDS
 6 THAT THE QUALITY CONTROL OPERATOR HAD TO DO.
 7 Q. NOW IN TERMS OF YOUR YEARS WITH UNION CARBIDE, IN TERMS OF
 8 HOW THIS MOLDING COMPOUND WAS SOLD, WHAT DID IT LOOK LIKE IF
 9 SOMEBODY WERE TO BE SHIPPED MOLDING COMPOUND TO BE USED TO
 10 MAKE A PLASTIC PART?
 11 A. MOST OF THE MOLDING COMPOUND WAS BLACK OR DARK BROWN. WE
 12 DID MAKE SOME COLORED MOLDING MATERIALS UP UNTIL THE EARLY
 13 '60'S WHICH WERE NOT THAT GREAT.
 14 SO YOU WOULD GET THIS GRANULAR SAND, COARSE SAND. IT
 15 COULD BE BLACK WHEN YOU TOOK IT OUT OF THE BAG OR DARK BROWN.
 16 AND THAT'S WHAT THE CUSTOMER WOULD THEN PUT IN THE HOPPER OF
 17 HIS MACHINE TO MOLD THE PART.
 18 Q. NOW IN YOUR EXPERIENCE AT UNION CARBIDE WORKING FOR THE
 19 BAKELITE DIVISION, YOU WORKED FOR THAT DIVISION UP UNTIL WHAT
 20 PERIOD OF TIME?
 21 A. THE BAKELITE DIVISION?
 22 Q. YES.
 23 A. WELL, I DON'T REMEMBER THE YEAR THAT THEY STOPPED CALLING
 24 IT BAKELITE DIVISION.
 25 Q. WELL, LET'S THEN, SO WE HAVE A COMFORT LEVEL, THIS
 26 BUSINESS THAT WAS MAKING THE MOLDING COMPOUNDS AND RESIN --
 27 A. UH-HUH.
 28 Q. -- YOU WORKED IN THAT DIVISION OF THE COMPANY UP UNTIL

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1 ABOUT WHAT POINT?
 2 A. IN THE MOLDING MATERIAL? IS THAT WHAT YOU'RE REFERRING
 3 TO?
 4 Q. YES.
 5 A. WELL, I WORKED THERE FROM 1960 TO 1974.
 6 Q. AND SOMETIME AFTER 1974, DID THE UNION CARBIDE COMPANY
 7 CEASE TO MAKE AND OFFER FOR SALE ANY MOLDING OR PHENOLIC RESIN
 8 PRODUCTS?
 9 A. IN 1975, THEY WENT OUT OF THE PHENOLIC MOLDING MATERIAL
 10 BUSINESS, YES.
 11 Q. SHORTLY AFTER YOU LEFT, THEY STOPPED SELLING THOSE KIND OF
 12 PRODUCT ALTOGETHER?
 13 A. YES; ONE YEAR LATER.
 14 Q. WHEN YOU SAY LEFT, YOU LEFT THAT DIVISION AND WENT TO DO
 15 OTHER WORK FOR UNION CARBIDE FOR ANOTHER TWENTY-PLUS YEARS?
 16 A. MY LEAVING HAD NOTHING DO WITH THEIR GOING OUT OF THE
 17 BUSINESS.
 18 Q. OKAY. SO DURING THAT PERIOD OF TIME, IF SOMEBODY WAS TO
 19 BUY MOLDING COMPOUND FROM UNION CARBIDE, WHAT THEY WOULD GET
 20 IS EITHER A SACK OR A CAN OR A PALLET OF THIS DARK, GRANULAR
 21 SAND LIKE MATERIAL?
 22 A. YES.
 23 Q. IN ALL OF THOSE YEARS THAT YOU WORKED AT UNION CARBIDE IN
 24 THIS DIVISION, EITHER BAKELITE DIVISION OR THE MOLDING
 25 COMPOUND OR RESIN DIVISION, DID UNION CARBIDE EVER OFFER FOR
 26 SALE ANY PRODUCTS THAT WERE MOLDED WITH THE MOLDING COMPOUND?
 27 IN OTHER WORDS, THE HARD, END USE PLASTIC PRODUCT?
 28 A. NO.

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1 Q. AT ANY TIME THAT YOU WORKED FOR UNION CARBIDE IN THIS
 2 DIVISION OF THE COMPANY, ARE YOU FAMILIAR WITH UNION CARBIDE
 3 EVER SELLING ANY BOARDS OF ANY KIND THAT WERE MADE FROM EITHER
 4 THE MOLDING COMPOUND OR THE RESINS?
 5 A. NO.
 6 Q. SO THAT IS NOT WHAT UNION CARBIDE WAS IN THE BUSINESS OF
 7 DOING?
 8 A. NO. THEY WERE A RESIN PRODUCER.
 9 Q. SO THEY WOULD SELL THIS TO COMPANIES THAT MIGHT MAKE
 10 THINGS LIKE ELECTRICAL COMPONENTS?
 11 A. YES.
 12 Q. YOU HAVE IN FRONT OF YOU A WHITE BINDER AND A BLACK
 13 BINDER. IF YOU WOULD OPEN THE WHITE BINDER FOR A SECOND. AND
 14 I DON'T KNOW IF YOUR TAB HAS 101; OR IF IT SAYS 1, BUT WE'RE
 15 GOING TO BE LOOKING AT WHAT IS EXHIBIT 101.
 16 THE COURT: IN THE WHITE BINDER, IT'S THE HUNDRED SERIES.
 17 THE WITNESS: I SEE IT. YES.
 18 MR. BRYDON: SO WE'RE LOOKING AT WHAT'S BEHIND TAB NUMBER
 19 1.
 20 THE COURT: WHICH WILL BE EXHIBIT 101.
 21 MR. BRYDON: 101.
 22 THE COURT: SO THE RECORD IS CLEAR.
 23 MR. BRYDON: THAT'S WHAT LAWYERS DO. THEY LEAVE NUMBERS
 24 OFF AND THINGS LIKE THAT.
 25 Q. WE'RE LOOKING AT EXHIBIT 101. IS THIS A DOCUMENT THAT
 26 LOOKS FAMILIAR TO YOU? THE BAKELITE MOLDING NEWS?
 27 A. 1954. I WAS NOT IN THE BUSINESS; SO IT DOES NOT.
 28 Q. BUT ARE YOU FAMILIAR WITH GENERALLY THE KINDS OF END USE

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1 PRODUCTS THAT BAKELITE MOLDING MATERIALS WERE PUT TO DURING
 2 THE TIMEFRAME WHEN YOU WERE THERE?
 3 A. YES. B.M.G.5000 IS DOWN HERE WHICH IS ONE OF OUR MOST
 4 POPULAR MATERIALS IN THE '50'S. AND THOSE PARTS ARE THE
 5 TYPICAL, COMPLICATED SHAPES THAT WERE MOLDED FROM IT.
 6 Q. AND IN TERMS OF EXHIBIT 102. THIS DESCRIBES PARTS THAT
 7 INCLUDE ELECTRICAL COMPONENTS; DOES IT NOT?
 8 A. YES.
 9 Q. AND DURING THE TIMEFRAME THAT YOU WORKED AT UNION CARBIDE
 10 AND THEY WERE MAKING THE PHENOLIC RESIN MOLDING COMPOUND, WAS
 11 UNION CARBIDE SELLING IT TO COMPANIES THAT MADE ELECTRICAL
 12 COMPONENTS?
 13 A. YES.
 14 Q. B.M.G.5000, IS THAT A MOLDING COMPOUND THAT HAS A FILLER
 15 IN IT?
 16 A. YES.
 17 Q. WHAT KIND OF FILLER DOES B.M.G.5000 HAVE?
 18 MR. HARLEY: OBJECTION. VAGUE AS TO TIME.
 19 THE COURT: SUSTAINED.
 20 MR. BRYDON Q. WHILE YOU WERE THERE?
 21 MR. HARLEY: OBJECTION. STILL VAGUE AS TO TIME.
 22 THE COURT: BE A LITTLE MORE EXPLICIT.
 23 MR. BRYDON Q. WHEN DID YOU FIRST BECOME AWARE OF
 24 B.M.G.5000? WAS IT A PRODUCT THAT WAS BEING SOLD IN THE
 25 1960'S?
 26 A. YES.
 27 Q. AND DURING THE 1960'S, B.M.G., WHAT KIND OF FILLER DID IT
 28 HAVE?

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1 A. WOOD FLOUR.
2 Q. AND AS FAR AS YOU KNOW DURING THE TIME PERIOD, DID UNION
3 CARBIDE SELL B.M.G. 5000 UP UNTIL IT WENT OUT OF THE MOLDING
4 COMPOUND BUSINESS?
5 A. YES.
6 Q. AND DURING THAT PERIOD OF TIME, IT WAS A CELLULOSE OR WOOD
7 FILLED PRODUCT?
8 A. YES.
9 Q. AND WAS THIS A KIND OF PRODUCT THAT WAS BEING SOLD TO
10 MANUFACTURERS OF ELECTRICAL COMPONENTS?
11 A. YES.
12 Q. YESTERDAY, WE HEARD ABOUT A PRODUCT CALLED B.M.G.3700. IS
13 THAT A PRODUCT THAT YOU'RE FAMILIAR WITH?
14 A. NOT AS FAMILIAR AS B.M.G.5000. BUT I AM FAMILIAR WITH IT.
15 Q. AND THAT'S A MINERAL FILLED TYPE OF PRODUCT?
16 A. YES.
17 Q. AND IS THAT A MINERAL FILLED TYPE OF PRODUCT THAT HAD AN
18 ASBESTOS FILLER TO IT?
19 MR. HARLEY: OBJECTION -- THAT'S OKAY.
20 THE COURT: ALL RIGHT.
21 THE WITNESS: YES, IT DID.
22 MR. BRYDON Q. THAT WOULD BE AN EXAMPLE OF A MINERAL
23 FILLED PRODUCT THAT UNION CARBIDE WOULD SELL TO MOLDERS OF
24 PRODUCTS THAT WOULD CONTAIN A MINERAL FILLER IN THE FORM OF
25 ASBESTOS; CORRECT?
26 A. YES.
27 Q. NOW DURING THE PERIOD OF TIME THAT YOU WERE WORKING AT
28 UNION CARBIDE IN THE 1960'S -- AND LET'S USE THAT TIMEFRAME

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1 FROM ABOUT THE MID 1960'S, THAT DECADE, UP UNTIL THE TIME THAT
2 UNION CARBIDE STOPPED MAKING MOLDING COMPOUND MATERIALS.
3 WERE YOU AWARE OF REQUESTS FROM CUSTOMERS TO HAVE GRADES
4 OF YOUR MOLDING COMPOUND THAT WOULD SATISFY MILITARY
5 SPECIFICATIONS FOR PRODUCTS YOUR CUSTOMERS WERE TRYING TO SELL
6 TO THE NAVY?
7 A. THEIR REQUESTS WEREN'T THAT SPECIFIC. THEY WOULD JUST ASK
8 DOES THIS MEET MILITARY SPECIFICATION SUCH AND SUCH; OR ARE
9 YOU QUALIFIED TO SUPPLY A MATERIAL UNDER MILITARY SPEC SUCH
10 AND SUCH.
11 MILITARY SPECS WEREN'T THE ONLY SPECIFICATIONS THEY ASKED
12 ABOUT. THERE WERE AUTOMOTIVE SPECS AND A.S.D.M. SPECS, AND SO
13 FORTH.
14 Q. BUT THE WHOLE CONCEPT OF SPECIFICATIONS WERE NOT FOREIGN
15 TO YOUR REQUESTS?
16 A. OH, NO.
17 MR. HARLEY: OBJECTION TO THE FORM OF THE QUESTION AND
18 MOVE TO STRIKE.
19 THE COURT: SUSTAINED. AND THE ANSWER WILL BE STRICKEN.
20 REPHRASE.
21 MR. BRYDON Q. YOU UNDERSTAND FROM YOUR WORK WITH THE
22 COMPANY OVER THE YEARS, THAT CUSTOMERS WOULD OFTENTIMES COME
23 TO YOU WITH REQUEST FOR SPECIFICATIONS THAT THE MOLDING
24 COMPOUNDS OR THE RESINS HAD TO MEET?
25 A. YES.
26 Q. AND YOU'VE TALKED ABOUT MILITARY SPECIFICATIONS. WERE
27 THERE OTHER KINDS OF SPECIFICATIONS THAT YOUR CUSTOMERS WOULD
28 REQUEST OF UNION CARBIDE IN THE MOLDING COMPOUNDS THAT THEY

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WERE BUYING?
A. YES. PARTICULARLY, AUTOMOTIVE INDUSTRY. AND THE CUSTOMER
WHO -- THE SAME CUSTOMERS WHO MIGHT BE MOLDING FOR A MILITARY
APPLICATION WOULD ALSO BE MOLDING FOR --
MR. HARLEY: OBJECTION. THERE'S NO QUESTION PENDING. I
MOVE TO STRIKE THE VOLUNTEERED COMMENT.
THE COURT: THAT LAST PART WILL BE STRICKEN.
ASK ANOTHER QUESTION, COUNSEL.
MR. BRYDON Q. IN TERMS OF YOUR YEARS WORKING FOR THE
BAKELITE COMPANY, DID YOU BECOME FAMILIAR WITH THE KINDS OF
PRODUCTS THAT YOUR MATERIAL WAS BEING USED FOR?
A. IN GENERAL, YES.
Q. AND DID YOU BECOME FAMILIAR WITH HOW THE COMPANIES THAT
WERE USING YOUR PRODUCTS WOULD USE IT IN MOLDING? THAT WAS
IMPORTANT TO THE COMPANY IN TERMS OF UNDERSTANDING THE
CUSTOMER NEEDS?
A. IN GENERAL, YES.
Q. OKAY. AND IN YOUR EXPERIENCE, WHAT KIND OF PRODUCTS DID
YOU FIND YOUR CUSTOMERS WERE COMMUNICATING YOUR MOLDING
COMPOUNDS WERE BEING USED FOR? FOR EXAMPLE, IN THE ELECTRICAL
INDUSTRY?
MR. HARLEY: OBJECTION. LACKS FOUNDATION AS TO THE
EXTENT -- BOTH VAGUE AS TO TIME AND LACKS FOUNDATION AS TO THE
EXTENT OF HIS CUSTOMER COMMUNICATION.
THE COURT: SUSTAINED.
MR. BRYDON Q. YOU COMMUNICATED WITH YOUR CUSTOMERS;
CORRECT?
A. YES. AND VISITED THEM TOO.

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Q. AND YOU WERE ABLE TO SEE -- AND LET'S TALK ABOUT THE
TIMEFRAME OF THE LATE '60'S AND EARLY 1970'S.
YOU VISITED CUSTOMERS AND YOU WERE ABLE TO OBSERVE HOW
THESE CUSTOMERS WERE USING THE MOLDING PRODUCTS?
A. YES.
Q. ALL RIGHT. AND WHAT WERE YOU OBSERVING IN TERMS OF THE
KINDS OF PRODUCTS THAT YOUR MOLDING COMPOUNDS WERE BEING PUT
TO IN THE LATTER PART OF THE 1960'S? FOR EXAMPLE, IN THE
ELECTRICAL INDUSTRY?
A. USUALLY, IT WAS WITH RELATION TO A PROBLEM THAT THEY WOULD
BE HAVING WITH OUR MATERIAL. IT WOULD BE WITH REGARD TO THE
PART THAT WAS BEING MADE THAT THEY HAD THE PROBLEM WITH.
USUALLY, IT WAS A MOLDING PROBLEM OR DIFFICULTY THEY WERE
HAVING WITH A PRODUCT AND WE WOULD HAVE TO TROUBLESHOOT.
WE WOULDN'T HAVE ACCESS TO EVERYTHING IN THE PLANT BUT WE
WOULD BE ALLOWED TO VIEW THAT PARTICULAR PART OF THE
OPERATION.
Q. AND WHAT WOULD YOU BE REVIEWING? HOW WOULD A MOLDING
COMPOUND BE USED BY ONE OF YOUR CUSTOMERS THAT YOU OBSERVED IN
THE LATTER PART OF THE 1960'S?
A. THERE ARE VARIOUS PROCESSES THEY USED TO MOLD THESE
PRODUCTS. I DON'T KNOW IF YOU WANT ME TO GO INTO THAT MUCH
DETAIL. BUT WE WOULD VIEW THE MOLDING OPERATION WHEREVER THEY
WERE HAVING THE PROBLEM. AND IF THERE WAS SOMETHING ABOUT THE
WAY THE MATERIAL MOLDED, WE WOULD TRY TO UNDERSTAND WHETHER IT
WAS A MATERIAL PROBLEM OR WHETHER IT WAS HIS PROBLEM.
AND SOMETIMES, IT WAS A BATCH THAT WAS NOT GOOD. WE WOULD
HAVE TO ACCEPT A RETURN OF IT AND PAY, YOU KNOW, THE COST;

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1 WHAT IT COST HIM BECAUSE OF OUR MISTAKE.

2 Q. NOW OVER THE YEARS IN TERMS OF WORKING WITH CUSTOMERS AND

3 WORKING WITH FORMULATION, YOU HAD A GENERAL UNDERSTANDING OF

4 WHAT YOUR MOLDING COMPOUNDS WERE GOOD FOR AND NOT GOOD FOR IN

5 TERMS OF END PRODUCTS?

6 A. WE KNEW ENOUGH TO SAY, YOU KNOW, WE DON'T THINK THIS IS

7 GOING TO WORK AND MAKE SOME RECOMMENDATIONS. AND USUALLY, THE

8 CUSTOMERS -- IT WAS A TWO-WAY STREET. THEY WOULD TELL US WHAT

9 THEY WANTED AND WE WOULD TELL THEM IF WE COULD DO IT.

10 Q. AND IN YOUR EXPERIENCE IN WORKING IN THE PHENOLIC RESIN

11 BUSINESS AND IN THE PHENOLIC MOLDING COMPOUND BUSINESS, DID

12 YOU EVER COME TO OBSERVE PANELS THAT WERE MADE OUT OF SOME

13 KIND OF PHENOLIC RESIN MATERIAL?

14 A. YES.

15 Q. IN YOUR EXPERIENCE, HAD YOU EVER SEEN SUCH PANELS HAVING

16 BEEN MADE USING A MOLDING PROCESS?

17 A. NO.

18 Q. HOW IS IT THAT YOU OBSERVED --

19 A. LET ME CLARIFY THAT.

20 MR. HARLEY: YOUR HONOR --

21 THE COURT: JUST A MOMENT, MR. MARTINO.

22 THE WITNESS: SORRY.

23 MR. HARLEY: YOUR HONOR, I BELIEVE HE ANSWERED THE

24 QUESTION.

25 THE COURT: ALL RIGHT.

26 MR. BRYDON Q. WAS THERE AN EXPLANATION YOU WANTED TO

27 ADD TO THAT QUESTION, SIR?

28 A. YOU SAID MOLDING PROCESS AND I QUICKLY SAID, YES. IT

1 SHOULD BE MOLDING MATERIAL BECAUSE LAMINATING IS A FORM OF A

2 MOLDING PROCESS ALSO.

3 Q. HOW IS IT IN YOUR EXPERIENCE HAVING SEEN YOUR KIND OF

4 PRODUCTS USED OVER THE YEARS, THAT YOU HAVE SEEN ANY KIND OF

5 PHENOLIC RESIN USED IN THE MAKING OF A PANEL AS OPPOSED TO A

6 SHAPED PRODUCT?

7 A. COULD YOU REPHRASE THAT AGAIN, PLEASE.

8 Q. YES. IN YOUR EXPERIENCE WHEN YOU'VE SEEN PANELS -- AND

9 YOU TALKED ABOUT HOW YOU HAD OBSERVED PANELS THAT ARE OUT

10 THERE. AND I BELIEVE YOU SAID YOU HADN'T SEEN IT DONE IN A

11 MOLDING PROCESS OTHER THAN VIA LAMINATION.

12 IN OTHER WORDS, HOW DOES THE LAMINATING PROCESS WITH THE

13 USE OF PHENOLIC MATERIAL DIFFER FROM THE MOLDING PROCESS?

14 A. I THINK I'LL HAVE TO GIVE AN EXPLANATION.

15 Q. AND THAT'S WHAT I'M ASKING IS TO ASK YOU TO EXPLAIN THAT?

16 A. WELL, IF IT'S OKAY, I'LL GO AHEAD WITH IT.

17 IN THE LAMINATING PROCESS, YOU TAKE -- LET ME TAKE A

18 SIMPLE ONE IN SOMETHING THAT EVERYBODY IS FAMILIAR WITH.

19 LET'S SAY, PAPER LAMINATES. YOU TAKE CRAFT PAPER VERY SIMILAR

20 TO THE CRAFT PAPER THAT YOU USE TO WRAP YOUR PACKAGES IN. YOU

21 KNOW, IT'S SORT OF A BROWNISH COLOR. AND THAT IS FED THROUGH

22 A VAT THAT CONTAINS A LIQUID PHENOLIC RESIN.

23 IT THEN GOES THROUGH AN OVEN WHERE THE MATERIAL IS DRIED,

24 AND WHEN THE SHEET COMES OUT IN DRIED FORM, YOU THEN CUT IT TO

25 THE SIZE YOU WANT. IF YOU WANT TO 4 BY 8 PANEL, THAT'S WHAT

26 YOU CUT. IF YOU WANT A 3 BY 3 FOOT PANEL, THAT'S WHAT YOU

27 CUT.

28 YOU THEN TAKE THAT MATERIAL AND YOU GO TO A PRESS AND YOU

1 STACK UP THE NUMBER OF TREATED SHEETS TO GET WHATEVER

2 THICKNESS YOU WANT. IF YOU WANT A THIN SHEET, YOU PUT ENOUGH

3 TO GET THAT THICKNESS. IF YOU WANT A 2 INCH SHEET, THEN YOU

4 HAVE TO PUT IN A LOT OF SHEETS BUT YOU GET UP TO THE 2 INCH

5 THICKNESS LIKE THAT.

6 YOU PUT THOSE SHEETS BETWEEN TWO SHEETS OF METAL. THEY'RE

7 FAIRLY THIN SHEETS WITH WHATEVER SURFACE APPEARANCE THAT YOU

8 WANT. IF YOU WANT HIGH GLOSS, YOU HAVE HIGH GLOSS PANELS. IF

9 YOU WANT DULL, YOU PUT DULL PANELS IN.

10 THOSE PANELS GO INTO A COMPRESSION PRESS, AND IT CLOSES

11 AND THE PRESS IS HEATED, SO THAT YOU APPLY HEAT TO BOTH SIDES

12 THROUGH THESE SHEETS OF STEEL THAT YOU PUT THE TREATED PAPER

13 ON.

14 AND AFTER A CERTAIN LENGTH OF TIME UNDER THOSE CONDITIONS,

15 THE PHENOLIC RESIN MELTS AND THE SHEETS GET GLUED TOGETHER

16 UNDER HEAT AND PRESSURE AND SINCE THE PRESSURES ARE UP OVER A

17 THOUSAND PSI IN THE COMPRESSION PRESS, IT'S A PRETTY SOLID

18 PANEL. THERE ARE NO SIDES. JUST A SHEET ON THE TOP AND THEN

19 THE BOTTOM.

20 NOW YOU GO TO TRY TO MAKE THE SAME THING, LET'S SAY 3 BY 3

21 FOOT PANEL, OR, YOU KNOW, 4 BY 8, AND YOU WANT TO USE THE

22 GRANULAR PRODUCT I DESCRIBED BEFORE, WHAT YOU WOULD HAVE TO DO

23 IS UNIFORMLY DISTRIBUTE ALL OF THAT GRANULAR MATERIAL WHICH IT

24 LOOKS LIKE A BLACK SAND ACROSS THIS 4 BY 8 OR 3 BY 3 PANEL.

25 IF, AS IS USUALLY THE CASE IN A MOLDING PROCESS, THE MOLD

26 IS ALREADY HOT, YOU DON'T HAVE MUCH TIME. SO YOU RUN THE RISK

27 THAT THOSE GRANULES ARE GOING TO PRE-CURE BEFORE YOU END UP

28 GETTING THAT UNIFORMLY DISTRIBUTED.

1 YOU HAVE ANOTHER OPTION. YOU CAN TAKE THAT MOLD OUT AND

2 USE IT COLD AND DISTRIBUTE IT. AND THEN YOU PUT IT IN THE

3 PRESS AND HEAT IT UP.

4 BECAUSE THAT MATERIAL IS A GRANULAR MATERIAL, YOU HAVE TO

5 HAVE SIDES ON IT SO IT DOESN'T SPILL OUT ONTO THE FLOOR; SO

6 YOU NOW DON'T HAVE JUST A SIMPLE SHEET. YOU HAVE A BOX. AND

7 IT HAS TO BE THICK ENOUGH TO WITHSTAND THE PRESSURES OF THE

8 COMPRESSION THAT IS OCCURRING THERE; SO IT HAS TO BE A THICK

9 MOLD AND IT'S HEAVY.

10 YOU'RE FURTHER RESTRICTED AND IF YOU MAKE YOUR MOLD A HALF

11 INCH THICK, THAT'S ALL YOU'RE GOING TO MAKE; A HALF-INCH THICK

12 PANEL. IF YOU WANT A ONE-INCH PANEL, YOU HAVE TO PUT IN A

13 ONE-INCH DEEP MOLD WHICH MEANS ANOTHER MOLD.

14 WHEREAS, THE LAMINATING PROCESS YOU DON'T HAVE TO DO THAT.

15 THE COURT: USE THE MICROPHONE, MR. MARTINO, AND REPEAT

16 WHAT YOU SAID. IT'S ADJUSTABLE SO YOU CAN MOVE IT.

17 THE WITNESS: SO IN THE MOLDING PROCESS USING MOLDING

18 MATERIAL, YOU HAVE TO USE A MOLD AND YOU HAVE TO HAVE A MOLD

19 FOR THE SIZE AND THICKNESS THAT YOU WANT; SO YOU HAVE A SERIES

20 OF MOLDS TO USE.

21 IN THE LAMINATING PROCESS, YOU DON'T HAVE TO DO THAT; SO

22 YOU END UP WITH A MORE CUMBERSOME, A MORE COSTLY PROCESS.

23 AND THEN THERE'S ONE OTHER FEATURE HERE THAT IS VERY

24 IMPORTANT. IN THE MOLDING MATERIAL PROCESS, AS I DESCRIBED,

25 WE MAKE THE SHEET BUT THEN WE GRANULATE IT; SO YOU END UP WITH

26 LITTLE PARTICLES. THE BIGGEST ARE MAYBE AN 8TH OF AN INCH,

27 MAYBE A LITTLE LARGER THAN THAT, OF DISCREET PARTICLES.

28 AND IF YOU ADD FIBERS IN THERE, THE FIBERS IN ONE PARTICLE

1 ARE NOT GOING TO GO INTO THE FIBERS OF THE OTHER PARTICLE AND
2 LINK TOGETHER, UNLESS YOU GET SOME MOVEMENT OF THAT LIQUID
3 RESIN THAT WILL FORCE THE PARTICLES INTO EACH OTHER. AND THEN
4 IN THE COMPRESSION PRESS WHERE THERE'S VERY LITTLE MOVEMENT,
5 THAT'S NOT GOING TO HAPPEN.

6 USING THE LAMINATING PROCESS I'VE ALREADY DESCRIBED, YOU
7 ALREADY HAVE CRAFT PAPER THAT HAS STRUCTURAL INTEGRITY. BY
8 ITSELF WITH NO RESINS, IT HOLDS TOGETHER. YOU DON'T HAVE TO
9 GLUE IT. AND WHEN YOU START GOING INTO MORE SOPHISTICATED
10 MATERIALS, LIKE GLASS MAT AND YOU'RE USING CONTINUOUS MANMADE
11 FILAMENT, YOU CAN COME UP WITH MATS.

12 LET'S SAY YOU WANT TO MAKE A FOUR BY EIGHT SHEET, YOU CAN
13 HAVE A GLASS STRAND THAT IS 8 FEET LONG, AND GIVE YOU STRENGTH
14 LENGTHWISE, YOU CAN GET STRENGTH ACROSS THE SHEET BECAUSE THE
15 FILAMENTS ARE CONTINUOUS; SO THAT GIVES YOU MUCH BETTER
16 PROPERTIES. MORE INTEGRITY AND MORE STRENGTH.

17 SO IF YOU WANT A FLAT BOARD WITH THE BEST STRENGTH, A
18 GLASS MAT IS THE WAY TO GO.

19 SO THE RANGE OF PROPERTIES AND THE QUALITY OF THE PRODUCT
20 IS MUCH BETTER IN THE LAMINATE PROCESS IF YOU WANT TO MAKE A
21 FLAT SHEET. AND I THINK THAT'S WHY I'VE NEVER SEEN A BOARD,
22 YOU KNOW, LARGE BOARD MADE OUT OF MOLDING MATERIALS.

23 Q. NOW IN TERMS OF THE RESINS THAT WERE SOLD AS PHENOLIC
24 RESINS, WAS ASBESTOS EVER PART OF THE PHENOLIC RESIN MATERIAL
25 THAT WAS SOLD BY UNION CARBIDE?

26 A. NO.

27 Q. THE ONLY MATERIALS IN THE PHENOLIC RESIN LINE THAT
28 CONTAINED ASBESTOS WOULD HAVE BEEN SOME OF THE MOLDING

1 COMPOUNDS THAT HAD A MINERAL FILL WHERE THE MINERAL FIBER WAS
2 ASBESTOS?

3 A. THAT'S RIGHT.

4 Q. NOW IN TERMS OF YOUR EXPERIENCE, AND LET'S FOCUS ON THE
5 PERIOD OF 1965 TO THE TIME THAT YOU LEFT THE PHENOLIC RESIN
6 DIVISION OF UNION CARBIDE, IF SOMEBODY WERE TO BRING TO YOU
7 SOMEBODY'S FINISHED PRODUCT, SOME ELECTRICAL COMPANY BROUGHT
8 YOU A PIECE OF MATERIAL THAT YOU RECOGNIZED WAS MADE FROM A
9 PHENOLIC RESIN MOLDING COMPOUND, A MOLDING MATERIAL, JUST BY
10 LOOKING AT THAT COULD YOU TELL WHETHER OR NOT YOUR COMPANY'S
11 PHENOLIC RESIN MOLDING COMPOUND WAS INSIDE THAT PRODUCT?

12 A. NO.

13 Q. HOW IS IT THAT YOU COULD TELL? WHAT ARE THE VARIOUS WAYS
14 THAT YOU COULD TRY TO ASCERTAIN IF SOMEBODY SAYS IT'S YOUR
15 JOB, MR. MARTINO, TO TRY TO FIGURE OUT WHETHER OR NOT THIS
16 MOLDED PRODUCT HAD A PHENOLIC RESIN MOLDING COMPOUND THAT CAME
17 FROM YOUR COMPANY?

18 A. I WOULD NOT BE ABLE TO DO THAT.

19 Q. IF YOU KNEW WHO THE MANUFACTURER OF THE COMPANY WAS, WOULD
20 THERE BE RECORDS WHERE YOU COULD FIND OUT WHETHER YOU SOLD IT
21 TO THEM?

22 A. WE WOULD HAVE SALES RECORDS KNOWING WHETHER WE SOLD THEM
23 THE MATERIAL. WE WOULDN'T KNOW WHETHER WE WERE THE ONLY ONES
24 WHO SOLD THEM THE MATERIALS.

25 Q. SO SHORT OF BEING ABLE TO FOLLOW THE CHAIN TO GET INTO THE
26 PARTICULAR PRODUCT, IS THERE ANY WAY YOU CAN TELL BY LOOKING
27 AT A PRODUCT WHETHER OR NOT IT CONTAINED A MOLDING COMPOUND
28 THAT HAD AN ASBESTOS MINERAL IN IT, JUST BY LOOKING AT IT?

1 A. NO. NOW THIS IS WITH REGARD TO THE BLACK AND BROWN
2 MOLDING MATERIAL.

3 Q. AND IN CONNECTION WITH THAT, HOW WOULD YOU GO ABOUT TRYING
4 TO FIND OUT, BASED ON YOUR EXPERIENCE, WHETHER OR NOT A MOLDED
5 MATERIAL, A MOLDING PRODUCT CONTAINED A PHENOLIC RESIN MOLDING
6 COMPOUND THAT HAD AS ITS FILLER ASBESTOS? HOW COULD YOU DO
7 THAT?

8 A. I WOULD HAVE TO SEND IT TO THE ANALYTICAL LABORATORY WHO
9 WOULD HAVE TO DO SOME VERY EXTENSIVE TESTING BECAUSE THE
10 PHENOLIC RESIN IS A THERMOSET. IT CAN'T BE DISSOLVED AND
11 REMOVED FROM THE PART. WITH THERMO PLASTICS, YOU CAN DO THAT.
12 YOU CANNOT DO THAT WITH THE THERMOSET PRODUCT.

13 SO THAT WOULD MEAN THAT THE ANALYTICAL LABORATORY WOULD
14 HAVE TO GET RID OF THE ORGANIC PORTION OF THAT PART AND
15 ANALYZE THE INORGANIC PORTION THAT WAS LEFT. AND THEY WOULD
16 PROBABLY DO THAT BY BURNING OFF THE ORGANIC MATERIAL.

17 NOW I MENTIONED BEFORE THAT PHENOLIC RESINS DIDN'T BURN
18 BUT IF YOU PUT THEM IN AN OVEN AT HIGH TEMPERATURE THEY WILL
19 DISINTEGRATE, AND EVENTUALLY TURN TO CARBON BLACK. AND YOU
20 CAN GET RID OF ALL THE ORGANIC BINDER.

21 AND THEN THE MINERAL FILLERS THAT ARE LEFT WOULD THEN BE
22 ANALYZED TO DETERMINE WHICH HAD THE CHARACTERISTIC GROUPS THAT
23 YOU WOULD FIND ON ASBESTOS AND WHICH WOULD BE THE
24 CHARACTERISTIC GROUPS THAT YOU WOULD FIND ON SOME OTHER
25 MINERAL AND TRY TO DETERMINE WHETHER IT WAS ASBESTOS OR NOT.

26 Q. AS A GENERAL PROPOSITION DURING THE TIMEFRAME YOU WORKED
27 AT UNION CARBIDE IN THIS EITHER BAKELITE OR PHENOLIC RESIN
28 PORTION OF THE BUSINESS, THERE WERE COMPETITORS IN THE MOLDING

1 COMPOUND BUSINESS; IS THAT CORRECT?

2 A. YES, THERE WERE.

3 Q. BEFORE I ASK YOU A LITTLE BIT ABOUT THAT, DID SOMETHING
4 HAPPEN AT THE BOUND BROOK FACILITY IN 1952 THAT AFFECTED UNION
5 CARBIDE'S ABILITY TO MAKE MOLDING COMPOUNDS?

6 A. YES.

7 Q. WHAT HAPPENED?

8 A. OUR PLANT BLEW UP. IT WAS IN 1952, I THINK DECEMBER. AND
9 IT WASN'T BECAUSE THE PLANT WAS DIRTY. IT WAS BECAUSE THE
10 DUST OVER THE YEARS HAD COLLECTED ON THE RAFTERS UP NEAR THE
11 ROOF AND THEY WERE NOT EASILY ACCESSIBLE AND NOBODY THOUGHT IT
12 WAS NECESSARY TO GO UP THERE AND VACUUM THEM, PERIODICALLY.

13 SO WHAT HAPPENED WAS THAT AN OVERHEATED BEARING IN THE
14 HEATING BLENDER TRIGGERED AN EXPLOSION IN THE BLENDER; AND
15 THAT WOULD NOT HAVE BEEN TOO DEVASTATING BECAUSE IT WAS
16 CONTAINED, BUT THE VIBRATIONS THAT THAT CAUSED CREATED, OH,
17 SHOOK ALL THE DUST OFF THE RAFTERS AND THAT CAUSED A SECONDARY
18 EXPLOSION WHICH DESTROYED THE PLANT.

19 AND UNFORTUNATELY, THERE WERE A COUPLE OF PEOPLE KILLED.
20 AND IT TOOK US A COUPLE OF YEARS TO REBUILD THE PLANT.

21 Q. FROM 1952 TO 1954, WAS UNION CARBIDE ABLE TO SELL ANY,
22 EITHER PHENOLIC RESIN COMPOUND OR MOLDING COMPOUND, TO ITS
23 CUSTOMERS?

24 A. NO. FOR THE FIRST YEAR, NO. THEN THEY DID GET ONE UNIT
25 RUNNING AND THEY WERE ABLE TO START GETTING BACK IN BUSINESS.
26 BUT ESSENTIALLY, FOR TWO YEARS THEY WERE NOT A MAJOR SUPPLIER.

27 Q. DID UNION CARBIDE DO ANYTHING IN RESPONSE TO THAT IN TERMS
28 OF ATTEMPTING TO SEE TO IT THAT CUSTOMER'S NEEDS FOR PHENOLIC

1 RESINS AND MOLDING COMPOUND WERE MET?
 2 MR. HARLEY: OBJECTION. LACKS FOUNDATION. NO. ESTABLISH
 3 A PERSONAL KNOWLEDGE ON THIS.
 4 THE COURT: LAY THE FOUNDATION.
 5 MR. BRYDON Q. DO YOU KNOW WHAT UNION CARBIDE DID TO TRY
 6 TO SEE TO IT THAT CUSTOMERS DURING THIS PERIOD WHEN UNION
 7 CARBIDE COULDN'T MAKE THESE MATERIALS, WHAT THEY DID TO HELP
 8 SEE TO IT THAT THE MATERIAL WAS AVAILABLE?
 9 MR. HARLEY: OBJECTION. LEADING AND COMPOUND.
 10 MR. BRYDON: IT'S A FOUNDATIONAL QUESTION, YOUR HONOR.
 11 THE COURT: I'M GOING TO ALLOW IT.
 12 MR. HARLEY: WELL, I DON'T WANT --
 13 THE COURT: COUNSEL, DO NOT ARGUE.
 14 MR. HARLEY: OKAY.
 15 MR. BRYDON Q. DO YOU KNOW WHAT THEY DID?
 16 A. YES, I DO.
 17 Q. WHAT DID THEY DO?
 18 MR. HARLEY: OBJECTION. FOUNDATION AS TO HOW HE KNEW.
 19 THE COURT: LAY THAT FOUNDATION, COUNSEL.
 20 MR. BRYDON Q. HOW DO YOU KNOW?
 21 A. BECAUSE I WAS THERE WHEN IT WAS BEING DONE. I WORKED WITH
 22 PEOPLE WHO WERE INVOLVED IN THE BUSINESS. THOSE MATERIALS
 23 WERE NOT LOCKED INTO SPECIFICATION. IT WAS EASY FOR THE
 24 CUSTOMER TO BUY AN EQUIVALENT FROM OUR COMPETITORS AND JUST
 25 SUBSTITUTE AN EQUIVALENT MATERIAL.
 26 Q. WERE THERE SOME THAT THEY COULD NOT BUY AN EQUIVALENT
 27 MATERIAL FOR?
 28 A. YES, BECAUSE THEY WERE LOCKED INTO SPECIFICATIONS. AND IN

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1 ORDER TO MAKE A SUBSTITUTION, THEY REQUIRED APPROVAL TO DO
 2 THAT. AND IN SOME CASES THAT INVOLVED EXTENSIVE TESTING; SO
 3 UNION CARBIDE GAVE THE FORMULATIONS TO OTHER COMPETITORS TO
 4 PRODUCE MATERIAL TO KEEP THOSE COMPANIES IN BUSINESS UNTIL
 5 SUCH TIME WE COULD PRODUCE THEM AGAIN OURSELVES.
 6 Q. SO THERE WAS A PERIOD OF TIME WHERE THERE WERE ONLY
 7 FORMULATIONS THAT ONLY UNION CARBIDE KNEW THAT CUSTOMERS
 8 WANTED THAT THEY GAVE TO COMPETITORS SO THAT THEIR NEEDS COULD
 9 BE MET?
 10 A. YES.
 11 Q. WHO WERE SOME OF THE COMPETITORS OF UNION CARBIDE WHEN
 12 THIS EXPLOSION OCCURRED?
 13 A. DUREZ. AT THE TIME THEY WERE A DIVISION OF HOOKER
 14 CHEMICAL. PLASTIC ENGINEER COMPANY, ALSO KNOWN AS PLENCO.
 15 GENERAL ELECTRIC MADE ITS OWN MATERIALS AND USED THEM.
 16 I THINK AT THAT TIME WESTINGHOUSE WAS ALSO MAKING ITS OWN
 17 MATERIALS AND USING THEM BUT THEY DID NOT SELL THEM.
 18 REICHHOLD.
 19 HOW MANY WAS THAT? FOUR?
 20 Q. THAT WAS FOUR OR FIVE.
 21 A. AND THEN THERE WERE TWO COMPANIES: FIBERITE, WHO MADE
 22 SPECIALTY PRODUCTS. AND RODGERS CORPORATION WHO ALSO MADE
 23 SPECIALTY PRODUCTS.
 24 Q. NOW BEING IN THE RESEARCH SIDE OF THE PHENOLIC RESIN AND
 25 PHENOLIC MOLDING COMPOUND MATERIAL, YOU HAD A GENERAL
 26 FAMILIARITY WITH THE KINDS OF PRODUCTS THAT YOUR COMPETITORS
 27 WERE MAKING?
 28 A. OH, YES.

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1 Q. AND DID YOUR COMPETITORS MAKE PRODUCTS THAT WERE MINERAL
 2 FILLED?
 3 A. YES.
 4 Q. DID YOUR COMPETITORS MAKE PRODUCTS THAT WERE MINERAL
 5 FILLED WITH ASBESTOS?
 6 MR. HARLEY: OBJECTION. LACKS FOUNDATION. CALLS FOR
 7 HEARSAY.
 8 THE COURT: I'M GOING TO ALLOW IT.
 9 THE WITNESS: YES.
 10 MR. BRYDON Q. AND IN 1952, WHEN THIS UNFORTUNATE
 11 ACCIDENT OCCURRED AT THE BOUND BROOK FACILITY, WAS UNION
 12 CARBIDE BASICALLY NUMBER 1 IN THIS BUSINESS AS FAR AS ITS
 13 MARKET SHARE?
 14 A. YES. WE HAD ABOUT 50 PERCENT.
 15 Q. I NOW WANT TO TAKE YOU TO A TIME PERIOD AFTER 1952 AND
 16 INTO THE 1960'S?
 17 A. WE NEVER REGAINED OUR ORIGINAL POSITION. I THINK THE BEST
 18 WE EVER DID WAS ABOUT 25 PERCENT.
 19 Q. AND IF WE TAKE OURSELVES TO ABOUT 1969 OR 1970, BASED ON
 20 YOUR WORKING AT UNION CARBIDE WITH THIS PRODUCT OVER THE
 21 YEARS, DID YOU HAVE AN UNDERSTANDING WHERE UNION CARBIDE WAS
 22 IN TERMS OF ITS MARKET SHARE IN THE LATE 1960'S?
 23 A. YES, I DO.
 24 MR. HARLEY: OBJECTION.
 25 THE WITNESS: YES, I DO.
 26 MR. HARLEY: OKAY.
 27 MR. BRYDON Q. AND IN CONNECTION -- WHO WAS NUMBER 1 IN
 28 THE LATE 1960'S OR EARLY 1970'S?

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1 A. DUREZ.
 2 MR. HARLEY: OBJECTION. OPINION TESTIMONY.
 3 THE COURT: LAY THE FOUNDATION.
 4 MR. BRYDON: I THINK I'VE LAID THE FOUNDATION FOR THIS.
 5 THE WITNESS: DUREZ.
 6 MR. BRYDON Q. MR. MARTINO, BEING INVOLVED IN THE
 7 BAKELITE DIVISION, YOU HAD TO KEEP AN EYE ON YOUR COMPETITORS;
 8 CORRECT?
 9 A. YES.
 10 Q. AND YOU WERE ABLE TO OBSERVE THE SHARE WITH WHICH YOUR
 11 COMPETITORS WERE COMPETING WITH YOUR COMPANY?
 12 A. YES.
 13 Q. AND BASED ON WHAT YOUR COMPETITORS WERE DOING IN THE LATE
 14 1960'S AROUND THE TURN OF THE DECADE OF THE 1970'S, WHO WAS
 15 THE LEADER IN MARKET SHARE FOR THE PHENOLIC MOLDING PLASTIC
 16 PRODUCTS?
 17 A. DUREZ.
 18 Q. AND DO YOU KNOW THE RELATIVE SHARES OF THE OTHER COMPANIES
 19 THAT YOU HAVE DESCRIBED THAT WERE COMPETING WITH UNION CARBIDE
 20 DURING THE '60'S AND EARLY '70'S?
 21 A. YES.
 22 Q. AND WHAT WAS THE RELATIVE SHARE OF OTHER COMPANIES?
 23 A. WELL, DUREZ, OF COURSE, HAD ABOUT 40; ALMOST 50 PERCENT.
 24 PLASTIC ENGINEERING COMPANY HAD ABOUT 12 PERCENT. GENERAL
 25 ELECTRIC HAD ABOUT 8 PERCENT. REICHHOLD HAD ABOUT FOUR OR
 26 FIVE PERCENT. WE HAD, I REMEMBER THE FIGURES, AT ONE TIME 17
 27 PERCENT. AND THE REMAINDER WAS SPLIT BETWEEN FIBERITE AND
 28 RODGERS.

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1 Q. NOW YOU TALKED ABOUT BEING FAMILIAR WITH DUREZ. YOU HAVE
2 IN FRONT OF YOU A BLACK BINDER AND IT HAS UNFORTUNATELY TABS
3 THAT GO 1 THROUGH 9. BUT THESE ARE REALLY TABS 901 THROUGH
4 909. AND IF YOU WILL TAKE A LOOK BEHIND TAB NUMBER 4 YOU WILL
5 FIND EXHIBIT 904.
6 A. IS THAT TAB 4?
7 Q. YES.
8 A. THIS SAYS 904.
9 Q. ALL RIGHT. AND YOU RECOGNIZE THAT AS A MANUAL OF ONE OF
10 YOUR COMPETITORS?
11 A. YES.
12 Q. AND IT HAS UNION CARBIDE BATES NUMBERS AT THE BOTTOM OF
13 IT?
14 THE COURT: HE MAY NOT KNOW WHAT A BATE STAMP IS.
15 MR. BRYDON Q. U.C.A.S.B. AND A WHOLE BUNCH OF NUMBERS.
16 A. YEAH. I DON'T RECOGNIZE THE NUMBERS BUT I SEE THEM.
17 Q. BUT WHAT YOU'RE LOOKING AT IS THIS MANUAL REFERRING TO
18 THOSE LITTLE NUMBERS AT THE BOTTOM THAT SAY U.C.A.S.B.. WE'RE
19 LOOKING AT THE SAME PIECE OF PAPER RIGHT NOW?
20 A. YES.
21 THE COURT: LET ME JUST INTERJECT HERE FOR THE JURY.
22 YOU HAVE NOW HEARD THE PHRASE BATES NUMBER AND WHAT
23 HAPPENS GENERALLY IN A DISCOVERY PROCESS IN A CASE WHEN
24 DOCUMENTS ARE PRODUCED, THEY USUALLY OR NUMBERED SEQUENTIALLY,
25 THEY OFTEN ARE, AND IT'S DONE WITH A LITTLE MACHINE CALLED A
26 BATE STAMP. SO YOU PUNCH IT DOWN AND NUMBERS GOES UP TO THE
27 NEXT NUMBER WHEN YOU GO UP TO THE NEXT PAGE AND THAT WAY YOU
28 CAN IDENTIFY THE PAGES THAT HAVE BEEN PRODUCED.

901

1 MR. HARLEY: I HAVE AN OBJECTION. THIS DOCUMENT IS
2 HEARSAY.
3 THE COURT: I'M GOING TO ALLOW IT.
4 MR. BRYDON Q. AND JUST TAKE A LOOK AT THE LAST PAGE OF
5 THAT?
6 A. THE LAST PAGE OF 904?
7 Q. YEAH. HAS THE DATE OF 11-1972, AND IT HAS HOOKER DUREZ.
8 THAT WAS THE NAME OF THE COMPANY IN THE EARLY 1970'S THAT WAS
9 MAKING THE DUREZ RESIN AND MOLDING COMPOUNDS THAT WAS A
10 COMPETITOR OF YOURS?
11 A. YES.
12 Q. AND IT'S HOOKER CHEMICAL CORPORATION, A SUBSIDIARY OF
13 OCCIDENTAL PETROLEUM CORPORATION?
14 A. YES.
15 Q. AND I JUST WANT TO FOCUS YOUR ATTENTION ON JUST ONE OF
16 THESE PAGES, AND IF YOU COULD JUST TAKE THE NEXT PAGE IN. I
17 BELIEVE IT'S GOT BATE STAMP U.C.A.S.B. 00937903?
18 A. OKAY.
19 Q. AND THERE'S SOME LISTINGS DOWN HERE. THIS IS AN EXAMPLE
20 OF WHAT THEY CALL A DIALLYL PHTHALATE. YOU PRONOUNCE THAT FOR
21 ME, IF YOU COULD. MAYBE I SHOULD HAVE PICKED A PAGE THAT WAS
22 IN ENGLISH.
23 LET ME GO TO THE NEXT PAGE IN. IT TALKS ABOUT MOISTURE
24 RESISTANT SPECIAL PROPERTIES. THAT'S A LITTLE EASIER.
25 IF YOU TAKE THE NEXT PAGE UP, I BELIEVE THAT'S 902 AT THE
26 BOTTOM.
27 A. YES.
28 Q. OKAY. AND JUST COME OUT A LITTLE BIT. THIS SAYS MOISTURE

902

1 RESISTANT SPECIAL PROPERTIES. ALL I WANTED TO DO WAS TO FOCUS
2 IN JUST AT THE BOTTOM AND TALK ABOUT SOME TERMS HERE.
3 YOU'RE FAMILIAR WITH CONCEPTS, SUCH AS WHAT ARE CALLED
4 U.L. LISTINGS. I THINK IT'S CALLED UNDERWRITER LABORATORY
5 LISTINGS?
6 A. YES.
7 Q. THINGS LIKE A.T.S.M.?
8 A. YES.
9 Q. AND IT SAYS: RESIN TYPE, ONE STAGE OR TWO STAGES. I
10 THINK WE'VE HEARD A LITTLE BIT ABOUT THAT CONCEPT. WHAT DOES
11 THAT MEAN; ONE STAGE, TWO STAGE PROCESS?
12 A. I EARLIER DESCRIBED WHEN DOCTOR BAKELAND FOUND THAT HE
13 COULD CROSSLINK THESE LONG CHAINS SO THAT THEY WOULD LINK ON
14 TO EACH OTHER BY USING HEXA. THAT IS CALLED A TWO-STEP RESIN.
15 HE ALSO FOUND THAT HE COULD BUILD A CROSSLINKING SITE ON
16 THOSE LINEAR CHAINS AND KEEP IT DORMANT UNTIL IT WAS SUBJECTED
17 TO MUCH HIGHER TEMPERATURES. SO THAT THEY DID NOT HAVE TO ADD
18 HEXA. AND THIS ELIMINATED THE NEED FOR THE EXTRA INGREDIENT
19 AND STILL GET CROSSLINKING. THOSE WERE CALLED ONE STEPS.
20 Q. AND UNION CARBIDE, THROUGHOUT THE TIMEFRAME THAT IT WAS
21 PROVIDING ITS RESINS AND MOLDING COMPOUNDS, IT HAD A ONE-STEP
22 AND A TWO-STEP PROCESS?
23 A. YES. AND THERE ARE SOME PERFORMANCE DIFFERENCES BETWEEN
24 THE TWO.
25 Q. THE ONLY OTHER THING I WANTED TO FOCUS IN ON IS WHAT I
26 HAVE UNDERLINED. ARE YOU FAMILIAR WITH THE CONCEPT OF
27 M.I.L.'S?
28 A. YES.

903

1 Q. THAT'S BASICALLY AN INITIAL THAT MAKES REFERENCE TO
2 MILITARY SPECIFICATIONS; CORRECT?
3 A. YES.
4 Q. AND IN YOUR BROCHURES YOU WOULD HAVE REFERENCES TO
5 M.I.L.'S AS WELL?
6 A. CORRECT.
7 Q. AS WOULD YOUR COMPETITORS?
8 A. YES.
9 Q. NOW I GUESS JUST FINALLY, MR. MARTINO, I THINK WE HAVE
10 ESTABLISHED THIS BUT I KNOW THE JURY HAS ALREADY HEARD AN HOUR
11 OF YOUR TESTIMONY THAT WAS READ TO THEM EARLIER.
12 BUT THE LAST THAT YOU WERE AWARE OF UNION CARBIDE EVER
13 PROVIDING PHENOLIC RESIN OR PHENOLIC MOLDING COMPOUNDS TO
14 COMPANIES THAT WERE MAKING PHENOLIC BASED PRODUCTS WAS
15 SOMETIME IN 1975?
16 A. THE LAST? '75 WAS WHEN WE STOPPED SUPPLYING PHENOLIC
17 MOLDING MATERIALS. WE STILL CONTINUE TO PRODUCE PHENOLIC
18 RESIN.
19 Q. EVEN TODAY?
20 A. NO. WE WENT OUT OF THAT BUSINESS IN 1990.
21 Q. BUT AS FAR AS THE MOLDING COMPOUNDS WERE CONCERNED?
22 A. THAT WAS 1975.
23 Q. AND IN TERMS OF MOLDING COMPOUNDS, WERE OTHER COMPANIES
24 OFFERING MOLDING COMPOUNDS AFTER UNION CARBIDE WENT OUT OF
25 BUSINESS?
26 A. YES, AND THEY STILL ARE.
27 MR. BRYDON: THANK YOU VERY MUCH. THAT'S ALL THE
28 QUESTIONS I HAVE AT THIS TIME.

904

1 THE COURT: OKAY. BEFORE WE BEGIN, IS ANYONE INTERESTED
 2 IN A FIVE-MINUTE COMFORT BREAK?
 3 OKAY; THEN WE'LL TAKE A FIVE-MINUTE COMFORT BREAK.
 4 (RECESS TAKEN.)
 5 THE COURT: THE RECORD SHOULD REFLECT THE TIME IS 9:53.
 6 AND ALL 16 JURORS ARE PRESENT AND COUNSEL ARE PRESENT.
 7 AND MR. MARTINO HAS RETAKEN THE STAND.
 8 MR. HARLEY?
 9 CROSS-EXAMINATION
 10 MR. HARLEY Q. GOOD MORNING, MR. MARTINO.
 11 A. GOOD MORNING.
 12 Q. MY NAME'S PHIL HARLEY. I DON'T BELIEVE WE'VE EVER MET
 13 BEFORE. AND I'M REPRESENTING MR. TRINCHESE.
 14 MR. MARTINO, WHEN YOU GAVE THOSE MARKET PERCENTAGES, DO
 15 YOU RECALL THAT TESTIMONY?
 16 A. YES.
 17 Q. MARKET OF WHAT?
 18 A. THIS IS THE SHARE OF THE PHENOLIC MOLDING MATERIAL MARKET
 19 ONLY.
 20 Q. AND HOW MUCH OF THE SHARE OF THE NAVY MILITARY
 21 APPLICATIONS DID BAKELITE HAVE?
 22 A. I DON'T KNOW.
 23 Q. HOW MUCH OF MILITARY APPLICATIONS DID BAKELITE HAVE?
 24 A. I DON'T KNOW.
 25 Q. YOU POINTED OUT THAT DUREZ HAD SOME OF THEIR MOLDING
 26 PRODUCTS APPROVED FOR MILITARY SPEC.
 27 AND I'LL FIND THAT EXHIBIT NUMBER 904. AND YOU WERE ON
 28 THE PAGE THAT TALKED ABOUT MOISTURE RESISTANT SPECIAL

905

1 PROPERTIES AND SPECIAL APPLICATIONS; ISN'T THAT CORRECT?
 2 A. THAT'S CORRECT.
 3 Q. AND THIS PARTICULAR PAGE DENOTED MANY OF THOSE PRODUCTS AS
 4 BEING GLASS FILLED; ISN'T THAT CORRECT?
 5 A. I DIDN'T LOOK THAT CAREFULLY.
 6 Q. OKAY. DID DUREZ IN THIS BROCHURE DENOTE ANYTHING AS BEING
 7 MINERAL FILLED?
 8 A. I DID NOT GO THROUGH THE WHOLE BROCHURE. I JUST LOOKED AT
 9 THE PAGE AS I WAS DIRECTED TO LOOK AT IT.
 10 Q. DID YOU HAPPEN TO LOOK AT THE VOLTAGE REQUIREMENTS OF THE
 11 MATERIALS, THE DUREZ MATERIALS THAT HAD MILITARY SPECS ON IT?
 12 A. NO, I DID NOT.
 13 Q. THE HIGHER THE VOLTAGE, THE MORE STRENGTH AND HEAT
 14 RESISTANCE NEEDED IN THE MATERIAL; ISN'T THAT CORRECT?
 15 A. THAT IS CORRECT.
 16 Q. AND THAT ASBESTOS WAS USED IN HIGH VOLTAGE ELECTRICAL
 17 APPLICATIONS BECAUSE OF BOTH ITS HEAT RESISTANCE AND ITS
 18 ABILITY TO IMPART STRENGTH; ISN'T THAT CORRECT?
 19 A. YES. AND SO WAS GLASS.
 20 Q. AND THE MORE ASBESTOS YOU PUT IN, GENERALLY UP UNTIL A
 21 CERTAIN POINT, THE HIGHER STRENGTH AND LESS CONDUCTIVITY;
 22 ISN'T THAT CORRECT?
 23 A. NOT PHYSICAL STRENGTH. THE BETTER ARC RESISTANCE.
 24 Q. ARC RESISTANCE. AND DID YOU SEE ANYTHING IN THESE
 25 SPECIFICATIONS FOR DUREZ THAT THEY HAD A PRODUCT THAT WOULD GO
 26 UP TO 60,000 KILOVOLTS IN MILITARY SPEC TESTING?
 27 A. I ONLY LOOKED AT THE PAGES I WAS DIRECTED TO LOOK AT. I
 28 DID NOT GO INTO THEM IN THAT DETAIL. I'M SORRY. I DID NOT

906

1 SEE THAT.
 2 Q. WHILE THE PRODUCT THAT BAKELITE WAS SELLING IN THE 1970'S,
 3 THE GREEN PRODUCT FOR HIGH ARC RESISTANCE ACTUALLY HAD BEEN
 4 TESTED FOR MILITARY SPECS UP TO 60,000 VOLTS; ISN'T THAT
 5 CORRECT?
 6 A. I DON'T KNOW.
 7 Q. WELL --
 8 THE COURT: HAVE THOSE BEEN MARKED, COUNSEL?
 9 MR. HARLEY: YES. THESE ARE THE ONES I GOT THAT HAVE BEEN
 10 MARKED.
 11 Q. MR. MARTINO, DO YOU RECALL THAT YOU WERE DEPOSED LAST YEAR
 12 IN MAY; ABOUT A YEAR AGO? MAY 2001? IN A SAN FRANCISCO CASE
 13 KNOWN AS JAEGER (PHONETIC) VERSUS UNION CARBIDE.
 14 A. YES.
 15 Q. AND DO YOU RECALL TESTIFYING IN THAT CASE THAT YOU HAD NO
 16 INFORMATION AT ALL REGARDING UNION CARBIDE MEETING MILITARY
 17 SPECS OR WHICH PRODUCT MET MILITARY SPECS OR ANYTHING LIKE
 18 THAT?
 19 MR. BRYDON: YOUR HONOR, COULD I HAVE A PAGE AND LINE
 20 PLEASE.
 21 MR. HARLEY: I ASKED HIM FIRST WHETHER HE RECALLED THAT.
 22 MR. BRYDON: I'D LIKE TO KNOW WHAT HE SAID.
 23 MR. HARLEY: WELL, I'M ASKING HIM.
 24 THE COURT: YOU MAY ANSWER, MR. MARTINO.
 25 THE WITNESS: I MAY HAVE. THAT WAS MY FIRST DEPOSITION
 26 AND I HAD EVERYTHING I -- INFORMATION I GAVE WAS FROM MEMORY
 27 OF SOMETHING THAT HAPPENED 30 YEARS AGO.
 28 MR. HARLEY Q. AND PAGE -- IF YOU'D TAKE THAT BINDER

907

1 THERE AND LOOK AT TAB 34 WHICH IS EXHIBIT 134, I THINK YOU'LL
 2 FIND A COPY OF YOUR DEPOSITION.
 3 A. YES -- NO, THIS IS TRINCHESE?
 4 Q. NO. TAB -- YES. THAT'S YOURS. DO YOU HAVE THAT?
 5 A. YES.
 6 Q. OKAY.
 7 THE COURT: IT'S A DEPOSITION TAKEN WHEN?
 8 MR. HARLEY: THIS WAS THE DEPOSITION TAKEN MAY 4, 2001 AND
 9 THIS IS THE DEPOSITION THAT WE READ PORTIONS OF HIS
 10 DEPOSITION.
 11 Q. I'M GOING TO REPRESENT TO YOU, MR. MARTINO, THAT PARTS OF
 12 YOUR DEPOSITION WERE READ TO THE JURY IN THIS CASE. AND I'D
 13 ASK YOU TO TURN TO PAGE 51.
 14 A. YES.
 15 Q. AND STARTING ON LINE 24, AND LOOK OVER ON -- GOING OVER TO
 16 PAGE 52, PAGE 11.
 17 A. YES.
 18 Q. YOU SEE THAT?
 19 A. YES.
 20 Q. AND YOU WERE ASKED SPECIFICALLY DID YOU HAVE ANY
 21 UNDERSTANDING AS TO WHETHER PHENOLIC RESINS MANUFACTURED BY
 22 UNION CARBIDE BAKELITE QUALIFIED UNDER THE MINERAL FILLER
 23 SPECIFICATIONS OF THE U.S. NAVY. AND YOUR ANSWER IS YOU
 24 DIDN'T KNOW. ISN'T THAT CORRECT?
 25 A. IN THAT TIME, IT WAS CORRECT.
 26 Q. AND DO YOU HAVE -- AND THEN YOU WERE ASKED IF YOU KNEW OF
 27 ANYBODY WHO HAD THAT INFORMATION. YOU WOULDN'T --
 28 YOU SAID YOUR ANSWER IS: WE WOULD NOT HAVE BEEN ON THE

908

1 APPROVED LIST.

2 SO WITHOUT SEEING SPECIFICATIONS ON THE APPROVED LIST, YOU

3 COULDN'T ANSWER THAT?

4 A. THAT IS CORRECT.

5 MR. BRYDON: YOUR HONOR, I WISH HE WOULD READ THAT. I

6 DON'T KNOW IF THAT'S WHAT THAT ANSWER SAYS.

7 MR. HARLEY: ANSWER: LINE 8 --

8 MR. BRYDON: COULD I HAVE THE QUESTION AND THE ANSWER?

9 THE COURT: READ THE QUESTION AND THE ANSWER PLEASE

10 MR. HARLEY.

11 MR. HARLEY: (READING):

12 QUESTION: DO YOU HAVE ANY KNOWLEDGE AS TO ANYONE AT UNION

13 CARBIDE AT ANY TIME HAD KNOWLEDGE AS TO WHETHER OR NOT

14 BAKELITE PRODUCTS CONTAINING ASBESTOS MET THE MINERAL FILLER

15 SPECIFICATIONS.

16 ANSWER: UNLESS WE WERE REQUESTED TO OBTAIN APPROVAL UNDER

17 THAT SPECIFICATION, WE WOULD NOT HAVE BEEN ON THE APPROVED

18 LIST. SO WITHOUT SEEING THE SPECIFICATIONS AND THE APPROVED

19 LIST, I CAN'T ANSWER IT.

20 THE WITNESS: AND THAT IS CORRECT.

21 MR. HARLEY: QUESTION: IS THERE ANYONE ELSE THAT WOULD

22 HAVE HAD MORE KNOWLEDGE ABOUT THE SUBJECT THAN YOU.

23 ANSWER: AT THIS STAGE, I CAN'T THINK OF ANYBODY.

24 MR. BRYDON: ACTUALLY, IT'S ANYONE.

25 MR. HARLEY: ANYONE.

26 Q. THAT'S WHAT YOU TOLD MISS SHINING LAST YEAR; ISN'T THAT

27 CORRECT?

28 A. YES. I THINK RIGHT BELOW THAT I SAID SOMEONE IN THE SALES

909

1 DEPARTMENT WOULD KEEP A RECORD OF OUR APPROVALS. PROBABLY,

2 THE MARKET MANAGER; SO THAT HE WOULD RESPOND TO REQUESTS.

3 SO, ACTUALLY, I DID THINK OF SOMEONE.

4 Q. AND, IN FACT, YOU WERE PROVIDED THAT INFORMATION DURING

5 THE PERIOD OF TIME YOU WERE AT UNION CARBIDE IN THE '60'S AND

6 '70'S?

7 A. YES, I WAS.

8 Q. AND YOU WERE -- EXHIBIT 150. I'M GOING TO GIVE YOU THE

9 MARKED COPY WHICH IS NOT IN YOUR BINDER. DO YOU RECOGNIZE

10 EXHIBIT 150?

11 A. YES.

12 Q. EXHIBIT 150 IS ENTITLED BAKELITE PHENOLIC MOLDING

13 COMPOUNDS?

14 A. YES.

15 MR. BRYDON: GOT IT.

16 MR. HARLEY: OKAY.

17 Q. AND THIS IS ACTUALLY FOR YOUR PERSONAL USE? THIS WAS

18 PROVIDED TO YOU, PERSONALLY?

19 A. YES, IT WAS.

20 Q. YOU DIDN'T TELL MISS SHINING ABOUT THIS DOCUMENT WHEN YOU

21 WERE ASKED QUESTIONS LAST YEAR; DID YOU?

22 A. YES. I DID NOT BECAUSE I DIDN'T HAVE IT. I WAS LOOKING

23 FOR IT AND NEVER FOUND IT UNTIL, I THINK IT WAS JUNE OF LAST

24 YEAR AFTER THE DEPOSITION.

25 Q. AND THIS -- ACTUALLY, THIS DOCUMENT CONTAINS ALL THE

26 PRODUCTS THAT HAD MILITARY SPECIFICATION APPROVAL, INCLUDING

27 THE GREEN PRODUCT WE JUST WENT OVER?

28 A. YES, AND IF I HAD THIS BEFORE --

910

1 MR. BRYDON: OBJECTION. MR. MARTINO?

2 THE COURT: EXCUSE ME, MR. MARTINO.

3 MR. BRYDON: YOUR HONOR, THAT QUESTION IS ARGUMENTATIVE.

4 IT ASSUMES THIS IS ALL OF THEM. AND THIS CONTAINS THINGS

5 OTHER THAN THAT. IT MISCHARACTERIZES THE DOCUMENT.

6 THE COURT: REPHRASE.

7 MR. HARLEY Q. THIS IS A DESCRIPTION OF PHENOLIC MOLDING

8 MATERIALS; ISN'T THAT CORRECT?

9 A. IN 1973, YES.

10 Q. IN 1973. AND INCLUDES ALL OF THE MILITARY APPROVED

11 PHENOLIC MOLDING MATERIALS?

12 A. THAT IS CORRECT.

13 Q. AND IN FACT, THERE'S A NICE LITTLE CHART ON IT. IF YOU

14 LOOK AT THE VERY HARD TO READ BOTTOM PAGE, YOU'LL SEE A146864.

15 THERE'S ACTUALLY A LIST OF THE VARIOUS MILITARY APPROVED

16 PRODUCTS; IS THAT CORRECT?

17 A. YES.

18 Q. AND THERE WERE THE M.F.E. PRODUCTS. WAS THAT A UNION

19 CARBIDE DESIGNATION; OR WAS THAT A MILITARY DESIGNATION?

20 A. M.F.E. IS A MILITARY DESIGNATION.

21 Q. AND THAT DENOTES THE PRODUCTS HAVING ELECTRICAL

22 APPLICATION; IS THAT CORRECT?

23 A. YES.

24 Q. AND THEN THERE'S A M.F.H. MILITARY CLASSIFICATION. AND

25 THAT IS FOR PRODUCTS THAT ARE GOING TO BE USED WITH HIGH

26 VOLTAGE; ISN'T THAT CORRECT?

27 A. WHERE YOU WOULD NEED GOOD ARC RESISTANCE, YES.

28 Q. DID YOU SEE ANYTHING IN THE DUREZ PAMPHLET THAT INDICATED

911

1 ANY OF THOSE PRODUCTS MET THE M.F.E. OR THE M.F.H.

2 CLASSIFICATIONS?

3 A. I HAVE NOT HAD AN OPPORTUNITY TO GO THROUGH THAT. I CAN

4 SAY THAT WHILE I WAS WORKING --

5 Q. THAT'S ALL I ASKED YOU WAS ONE QUESTION.

6 A. OKAY.

7 Q. NOW YOU WERE ALSO ASKED AT YOUR DEPOSITION DO YOU RECALL

8 WHETHER YOU HAD ANY INFORMATION ABOUT WHAT FILLERS WERE USED

9 BY YOUR COMPETITORS. DO YOU RECALL THAT?

10 A. NOT RIGHT NOW.

11 Q. WOULD YOU TURN TO PAGE 65?

12 A. YES.

13 MR. HARLEY: STARTING ON PAGE 65, LINE 23. GOING OVER TO

14 PAGE 66, LINE 4.

15 QUESTION: OKAY. DO YOU HAVE ANY RECOLLECTION AS TO WHICH

16 OTHER COMPETITORS OF UNION CARBIDE MANUFACTURED

17 ASBESTOS-CONTAINING PHENOLIC RESINS.

18 ANSWER: THERE WERE OTHER MANUFACTURERS OF PHENOLIC

19 MOLDING MATERIALS. WE DID NOT HAVE ACCESS TO THEIR

20 FORMULATIONS. I CAN ONLY SPECULATE THAT THEY WOULD BE DOING

21 THE SAME THING THAT WE WERE DOING.

22 Q. THAT WAS YOUR ANSWER; ISN'T THAT CORRECT?

23 A. THAT'S CORRECT.

24 Q. BETWEEN THEN AND LAST YEAR, DID YOU GET ACCESS TO

25 COMPETITOR'S FORMULATIONS?

26 A. NO.

27 Q. BETWEEN NOW AND LAST YEAR?

28 A. NO, BUT I DID SEE SOME DOCUMENTS AND I DID RECALL SOME

912

1 ANALYSIS THAT WE HAD DONE.

2 Q. SO YOU MET WITH UNION CARBIDE ATTORNEYS AND

3 REPRESENTATIVES?

4 A. WELL, I HAVE MET WITH THEM MANY TIMES SINCE THEN. YES.

5 Q. AND THEY'VE SHOWN YOU SOME DOCUMENTS TO HELP REFRESH YOUR

6 MEMORY OR GIVE YOU INFORMATION?

7 A. WELL, THERE WERE DOCUMENTS THEY HAPPENED TO FIND AND THEY

8 WANTED TO UNDERSTAND WHAT THEY MEANT.

9 Q. AND DID THOSE DOCUMENTS HELP REFRESH YOUR MEMORY?

10 A. SOME DID.

11 Q. AND?

12 A. SOME DIDN'T.

13 Q. DID YOU BRING ANY OF THOSE DOCUMENTS WITH YOU TODAY?

14 A. NO.

15 Q. GE, AS WELL AS BEING A COMPETITOR, WAS ALSO A CUSTOMER OF

16 MOLDING MATERIALS; IS THAT CORRECT? GENERAL ELECTRIC?

17 A. THEY BOUGHT -- YOU KNOW, THEY USED THEIR OWN MATERIAL.

18 AND I'VE BEEN ASKED THAT QUESTION BEFORE. I DON'T HAVE A

19 RECORD OF WHAT WE SOLD TO GE OR SEEN ANY RECORDS, BUT IT IS

20 POSSIBLE THAT IF IT WAS SOMETHING THAT THEY DID NOT MAKE, AND

21 WE DID, THAT WE COULD HAVE SOLD IT TO THEM; SO THERE COULD BE

22 SOME SALES. BUT ONLY, YOU KNOW, UNDER CERTAIN CIRCUMSTANCES.

23 MR. HARLEY: WOULD YOU TURN TO PAGE 75 OF YOUR DEPOSITION.

24 LINE 16 THROUGH LINE 21.

25 QUESTION: DID YOU WORK AT ALL WITH GENERAL ELECTRIC AND

26 HAVE ANY FAMILIARITY WITH THE TYPE OF BAKELITE THEY PURCHASED.

27 ANSWER: THEY MADE THEIR OWN PHENOLIC MOLDING MATERIAL AND

28 BOUGHT FROM US WHAT THEY DIDN'T MAKE; SO THEY WERE BOTH A

913

1 PRODUCER AND A USER?

2 THE WITNESS: UH-HUH. THAT'S CORRECT.

3 MR. HARLEY Q. AND SQUARE D WAS A CUSTOMER; IS THAT

4 CORRECT?

5 A. THAT'S CORRECT.

6 Q. YOU VISITED SQUARE D FACILITIES?

7 A. YES.

8 Q. WHICH FACILITIES DID YOU VISIT?

9 A. THE ONES IN LEXINGTON, KENTUCKY.

10 Q. WHAT WERE THEY MAKING THERE?

11 A. OH, A WHOLE RANGE OF ELECTRICAL PARTS.

12 Q. ARE YOU FAMILIAR WITH THEIR SUBSTATION OPERATIONS; THEIR

13 MANUFACTURE OF SUBSTATIONS?

14 A. NO.

15 Q. THEY WERE -- THEY BOUGHT A RANGE OF MOLDING MATERIALS FROM

16 UNION CARBIDE?

17 A. YES.

18 Q. THROUGHOUT THE PERIOD OF TIME THAT YOU WERE THERE?

19 A. DURING SOME OF THE YEARS I WAS THERE; NOT ALL OF THE

20 YEARS.

21 Q. HOW ABOUT IN THE '60'S?

22 A. THEY DID BUY IN THE '60'S BUT I DON'T RECALL THE EXACT

23 YEARS.

24 Q. AND THEY HAD MANUFACTURING FACILITIES OTHER THAN IN

25 LEXINGTON, KENTUCKY; IS THAT CORRECT?

26 A. IF THEY DID, I DIDN'T VISIT THEM. I DON'T KNOW.

27 Q. YOU DIDN'T KNOW ABOUT ANY OFFICES IN LOS ANGELES OR

28 CHICAGO WHERE THEY MADE PRODUCTS?

914

1 A. NO.

2 Q. SOME PRODUCTS IN THE '40'S, '50'S AND '60'S CONTAINED AS

3 MUCH AS 50 PERCENT ASBESTOS; ISN'T THAT CORRECT?

4 A. THAT IS CORRECT.

5 Q. AND SOMETIMES, IT WAS CHRYSOTILE ASBESTOS; AND IN ONE

6 PARTICULAR PRODUCT LINE, IT WAS CROCIDOLITE ASBESTOS?

7 A. THAT'S CORRECT.

8 Q. AND AS I UNDERSTAND THE PROCESS, ASBESTOS ARRIVED AT THE

9 MOLDING FACILITY IN BAGS; IS THAT CORRECT, FROM CAREY, CANADA?

10 A. YES.

11 Q. AND THE BAGS WERE DUMPED INTO A HOPPER; AM I GETTING THAT

12 CORRECTLY?

13 A. INTO A RIBBON BLENDER.

14 Q. THEY WERE ACTUALLY DUMPED DIRECTLY INTO THE BLENDER?

15 A. YES, AS I RECALL, THEY WERE.

16 Q. AND INSIDE THIS BLENDER WERE THE GRANULES, THE DRY

17 GRANULES OF THE RESINS?

18 A. WELL, THEY WEREN'T GRANULES. THE PHENOLIC RESIN WAS

19 GROUND UP INTO A FINE POWDER LIKE FLOUR.

20 Q. SO IT WAS A POWDER?

21 A. POWDER, YES.

22 Q. SO YOU HAD THIS FINE POWDER OF BAKELITE. NOW, IT WAS

23 FORMULATED INTO THE BAKELITE RESINS; IS THAT CORRECT?

24 A. YES.

25 Q. AND THEN ASBESTOS WAS THEN ADDED TO THE SPECIFIED AMOUNT,

26 ANYWHERE FROM 5 TO 50 PERCENT; IS THAT CORRECT?

27 A. THAT'S CORRECT.

28 Q. AND THEN THIS RIBBON BLENDER?

915

1 A. NO. THE RIBBON WAS THIS WAY.

2 Q. TURNED AS A CYLINDER?

3 A. THAT'S RIGHT.

4 Q. AND THEN THE CYLINDER JUST TURNED THIS? HOW LONG WAS THIS

5 RIBBON BLENDER?

6 A. OH, MY GUESS IS FROM ME TO YOU.

7 Q. OKAY. 12, 15 FEET?

8 THE COURT: JUST A MOMENT. LET ME PULL OUT MY HANDY

9 CHART. 18 FEET.

10 MR. HARLEY: OKAY.

11 Q. DOES THAT SOUND ABOUT RIGHT?

12 A. THAT'S ABOUT RIGHT. YES. I AM IMPRESSED.

13 THE COURT: AND IT'S FROM WHERE YOU'RE SITTING.

14 MR. HARLEY Q. AND MR. MARTINO, THEN THIS MIXTURE OF

15 POWDER BAKELITE AND ASBESTOS WAS SLOWLY FED INTO TWO PINCHER

16 ROLLERS; HOT PINCHER ROLLERS?

17 A. I WOULDN'T SAY SLOWLY.

18 Q. OKAY.

19 A. THEY WERE CALLED ROLL MILLS.

20 Q. OKAY.

21 A. AND THEY WERE FAIRLY BIG SIZED. WELL, DEPENDING ON THE

22 SIZE OF THE UNIT. I THINK THE BIG UNIT I THINK I SAID THE

23 WIDTH WAS ABOUT EIGHT FEET AND THE DIAMETER ABOUT THREE FEET.

24 THEY WERE FED INTO THE NIP. THAT'S WHERE THE TWO ROLLS MEET

25 AND THEY ROTATED THIS WAY.

26 Q. OKAY.

27 A. ONE ROLL WENT FASTER THAN THE OTHER; SO THAT YOU'D GET

28 SOME ROLLING ACTION OF THE MATERIAL IN THE NIP.

916

1 AND THE RAW MATERIAL THAT WAS COMING DOWN FROM THE RIBBON
2 BLENDER WAS FED AT A CONTROLLED RATE RIGHT INTO THE HOT
3 MATERIAL THAT WAS IN THAT NIP; SO IT WOULD IMMEDIATELY PICK UP
4 HEAT AND MELT.

5 IF YOU PUT IT ON THE EDGE OF THE ROLL, IT WOULD JUST SLIDE
6 OFF AND ONTO THE CONVEYER BELT, THEN YOU WOULD HAVE MORE
7 PROBLEMS.

8 Q. AND THEN THAT WENT ONTO A CONVEYER BELT?

9 A. THAT'S RIGHT. RIGHT UNDERNEATH THE ROLLS WAS A CONVEYER
10 BELT; SO THAT WHEN THE OPERATOR, HE HAD A PEDAL AND HE PUSHED
11 DOWN THE PEDAL. THIS KNIFE THAT LOOKED LIKE A SCRAPER WOULD
12 GO UP AGAINST THE ROLLS ALL THE WAY ACROSS THAT EIGHT-FOOT
13 SECTION. AND HE ALSO WOULD CUT OFF A SECTION AND LET IT GO
14 BACK INTO THE NIP TO GET EVEN FURTHER MIXING ACTION.

15 AND HE WOULD, SAY, IF HE SUDDENLY GOT A FLOOD OF MATERIAL
16 THAT WASN'T CONTROLLED, HE WOULD TRY TO MANIPULATE ONTO THE
17 ROLLS TO GET IT WELL MIXED IN. BUT THAT DIDN'T HAPPEN TOO
18 FREQUENTLY.

19 BUT THEN WHEN HE KEPT HIS FOOT ON THE ROLL, ALL OF THE
20 MATERIAL WOULD -- I MEAN, KEPT HIS FOOT ON THE PEDAL, A KNIFE
21 WOULD STAY THERE AND HE WOULD TAKE OFF ALL THE MATERIAL FROM
22 THE ROLL AND PUT IT ONTO THE CONVEYER BELT UNDERNEATH.

23 Q. SO THIS MATERIAL WOULD STICK TO THE ROLL?

24 A. YES. IT WOULD STICK. WELL, THAT'S WHERE, YOU KNOW, I
25 MENTIONED SOME OF THE INGREDIENTS. WE ALSO HAD TO USE
26 LUBRICANTS AND YOU HAD TO GET JUST THE RIGHT COMBINATION. IF
27 IT STUCK, HE COULDN'T GET THE ROLLS CLEAN AND YOU RAN THE RISK
28 THAT THE MATERIAL WOULD CURE ON THE ROLLS AND GIVE YOU

917

7/16/2002 Martino, Carlo in Trinchese

1 CONTAMINATION LATER ON. IF IT DIDN'T STICK ENOUGH, THEN YOU
2 HAD PROBLEMS WHERE IT WOULDN'T STAY ON THE ROLLS AND WOULD
3 COME OFF.

4 SO WE HAD TO FORMULATE JUST THE RIGHT AMOUNT OF LUBRICANT
5 SO YOU GOT THAT BLEND. AND THAT CONCENTRATION WOULD VARY FROM
6 FORMULATION TO FORMULATION BECAUSE OF THE EFFECT OF
7 INTERACTION OF ALL OF THOSE INGREDIENTS.

8 Q. RIGHT. AND SO, LET'S SAY THAT ONE OF THE MATERIALS WAS 25
9 PERCENT CHRYSOTILE ASBESTOS FIBER. NOW ASBESTOS ITSELF CAN
10 KIND OF ACT AS A LUBRICANT TO PREVENT STICKING; IS THAT
11 CORRECT?

12 A. RIGHT. IT CAN ALSO ACT AS AN ABRASIVE. IT CAN ALSO CLEAN
13 THE ROLLS FOR YOU; SO I DON'T THINK THAT, YOU KNOW, IN THAT
14 REGARD THERE WAS THAT MUCH DIFFERENCE BETWEEN ASBESTOS AND
15 WOOD FLOUR.

16 Q. AND SO, HOW MANY TIMES WOULD YOU GET THIS ROLL FILLED UP?
17 WOULD IT MAKE SEVERAL TURNS BEFORE HE WOULD CUT IT OFF?

18 A. PROBABLY, MORE THAN THAT.

19 Q. OKAY. I'M TRYING TO GET AN IDEA OF HOW MANY TURNS?

20 A. I WOULD GUESS -- IT'S A GUESS BECAUSE THAT WAS 30 YEARS
21 AGO AT LEAST -- ABOUT SIX TIMES.

22 Q. DID YOU EVER WORK WITH THE NAVY?

23 A. YES. WELL, WORK? I WAS TRAINED FOR A YEAR.

24 Q. YES, AS PART OF YOUR BAKELITE DUTIES, WORK WITH THE NAVY?

25 A. I DON'T RECALL ANY INSTANCE WHERE I WAS DIRECTLY INVOLVED
26 IN COMMUNICATING WITH THEM. THE ONLY INSTANCES I RECALL IS
27 WHEN I WAS WORKING WITH A CUSTOMER WHO WAS DIRECTLY
28 COMMUNICATING WITH THE NAVY.

918

1 Q. UNION CARBIDE ACTUALLY ITSELF SUBMITTED THE MATERIALS TO
2 THE NAVY FOR TESTING -- OR TO A TESTING LABORATORY FOR
3 APPROVAL BY THE NAVY; ISN'T THAT CORRECT? AND THEN GOT THE
4 RESULTS BACK THEMSELVES?

5 A. I'M GOING TO ANSWER THAT FROM MEMORY. SO --

6 Q. WELL, I'LL SEE IF I CAN HELP YOUR MEMORY.

7 A. YEAH. OKAY.

8 Q. I'LL SHOW YOU WHAT'S BEEN MARKED AS EXHIBIT 151. YOU HAVE
9 151 IN FRONT OF YOU?

10 A. YES, I DO.

11 Q. THIS IS THE NAVAL SHIP ENGINEERING CENTER. THAT'S THE
12 U.S. NAVY; IS THAT CORRECT?

13 A. YES.

14 Q. AND IT'S ACTUALLY -- THIS IS ACTUALLY THE APPROVAL --
15 MILITARY APPROVAL FOR MILITARY SPECS FOR TWO PRODUCTS,
16 INCLUDING THE GREEN PRODUCT; IS THAT CORRECT?

17 A. THAT'S RIGHT.

18 MR. BRYDON: ACTUALLY, IT SAYS CONDITIONS ON IT. BUT,
19 FINE.

20 MR. HARLEY: OKAY.

21 Q. WELL, ACTUALLY IT SAYS: SUBJECT TO THE CONDITIONS PRINTED
22 ON THE REVERSE SIDE OF THE PAGE. BUT THE PRODUCTION DIDN'T
23 INCLUDE THE REVERSE SIDE OF THE PAGE. BUT IT IS SUBJECT TO
24 WHATEVER CONDITIONS WERE ON THE REVERSE SIDE OF THE PAGE.

25 A. OKAY.

26 Q. AND SO THIS DETAILS THE -- THIS IS THE KIND OF THING THAT
27 WAS ACTUALLY SENT TO UNION CARBIDE. DO YOU KNOW WHO WOULD
28 HAVE GOTTEN THIS AT UNION CARBIDE?

919

7/16/2002 Martino, Carlo in Trinchese

1 A. WELL, IF THIS LETTER WAS RECEIVED IN THE NEW YORK OFFICE,
2 WHOEVER RECEIVED IT WOULD HAVE TO FIGURE OUT WHO IT WAS
3 SUPPOSED TO GO TO.

4 Q. OKAY. DID YOU SEE COPIES OF THINGS LIKE THIS WHEN YOU
5 WERE AT BAKELITE?

6 A. I MAY HAVE. IF YOU WANT, I COULD MAKE AN ADDITIONAL
7 COMMENT ON THIS.

8 FROM THIS, I CAN'T TELL WHETHER THEY RAN THE TEST OR WE
9 PROVIDED THE DATA SHOWING THAT, YOU KNOW, SHOWING OUR RESULTS
10 VERSUS THEIR SPEC; AND THAT WAS ACCEPTABLE.

11 Q. WOULD YOU TURN TO THE SECOND TO THE LAST PAGE BECAUSE I
12 THINK THAT ANSWERS THE QUESTION. THIS IS CERTIFIED BY A
13 TESTING LABORATORY. THIS HAPPENS TO BE FOR ONE OF THE TWO
14 PRODUCTS. THE VERY NEXT TO THE LAST AT THE VERY BACK.

15 A. COMPARATIVE DATA SHEET?

16 Q. NO. GO TWO PAGES FROM THE END WHERE IT SAYS: CERTIFICATE
17 BY TESTING LABORATORY?

18 A. YES. I SEE THAT.

19 Q. OKAY. AND IT'S AS YOU SUSPECTED IT MIGHT BE, THAT IN
20 FACT, A MR. SHEDDEN, S-H-E-D-D-E-N, THE LABORATORY SUPERVISOR
21 FOR UNION CARBIDE CERTIFIED THAT THE TESTS WERE PERFORMED IN
22 ACCORDANCE WITH CERTAIN REQUIREMENTS; IS THAT CORRECT?

23 A. THAT'S CORRECT.

24 Q. AND SO UNION CARBIDE ACTUALLY HAD A LABORATORY WHERE THEY
25 COULD DO THESE TESTS FOR MILITARY SPECS THEMSELVES?

26 A. OH, YES.

27 Q. AND THESE ARE -- DID YOU EVER GO TO THAT LABORATORY?

28 A. OH, OFTEN.

920

Q. AND THESE ARE FAIRLY ELABORATE TESTS. I MEAN, THEY HAVE TO SHOCK THE MATERIAL. PRESS THE MATERIAL WITH KNOWN STRENGTHS, ET CETERA; IS THAT CORRECT?

A. YES.

Q. BUT THE ADVANTAGE OF THIS IS THAT ONCE UNION CARBIDE GETS THIS APPROVAL, THEN EVERY ONE OF YOUR CUSTOMERS CAN USE THIS PRODUCT AS IS WITHOUT GETTING FURTHER APPROVAL; ISN'T THAT CORRECT?

A. YES.

MR. HARLEY: THAT'S ALL THE QUESTIONS I HAVE FOR NOW.

THE COURT: MR. BRYDON?

MR. BRYDON: VERY BRIEFLY.

REDIRECT EXAMINATION

MR. BRYDON Q. MR. MARTINO, DID UNION CARBIDE EVER SELL DIRECTLY TO THE NAVY THAT YOU KNOW OF AS FAR AS THE MOLDING COMPOUNDS ARE CONCERNED?

MR. HARLEY: OBJECTION. LACKS FOUNDATION.

THE COURT: SUSTAINED. LAY THE FOUNDATION.

MR. BRYDON Q. WHY IS IT THAT UNION CARBIDE WOULD CONDUCT TESTS? IS IT BECAUSE IT WAS PROVIDING MATERIAL TO THE NAVY OR BECAUSE IT WAS PROVIDING MATERIAL TO CUSTOMERS WHO WERE MAKING THINGS FOR THE NAVY?

A. THE LATTER.

Q. OKAY. I WANT TO HAVE YOU, IF YOU WOULD -- DO YOU STILL HAVE EXHIBIT 150 IN FRONT OF YOU?

THE COURT: THAT'S THE BIG WHITE BOOK.

MR. BRYDON Q. THAT'S YOUR COPY OF THE BAKELITE PHENOLIC MOLDING MATERIALS GUIDE THAT SAYS REGISTERED FOR THE PERSONAL

921

USE OF CARLO MARTINO?

A. THAT'S CORRECT.

Q. WE HAVE YOUR PERSONAL BAKELITE GUIDE. NUMBERS ARE HARD TO SEE, BUT MAYBE I CAN GUIDE YOU THROUGH. WE'VE HEARD ABOUT THIS B.M.G.3700. THERE WE GO.

AND THIS IS A MANUAL THAT COULD BE PROVIDED THAT SOMEBODY COULD CONSULT AND GET AN IDEA OF SOME OF THE SPECIFICATIONS FOR THIS PARTICULAR FORMULATION OF MOLDING MATERIAL?

A. EXCUSE ME. WHAT WAS THAT AGAIN?

Q. THIS IS SOMETHING THAT DESCRIBES THE PROPERTIES FOR YOUR CUSTOMERS OF CERTAIN MOLDING MATERIALS IN THIS CASE?

A. YES. USUALLY, THE PURCHASING AGENT GOT COPIES OF THESE MANUALS FROM US AND FROM OUR COMPETITORS.

Q. AND WE WERE TALKING ABOUT ARC RESISTANCE. AND ON PAGE 14, I THINK IT'S 888 (SIC). IF WE CAN ZOOM IN HERE A LITTLE BIT. WE HAVE ARC RESISTANCE. THERE'S A CORRESPONDING NUMBER, 180. ARE YOU FAMILIAR WITH THAT?

A. YES.

Q. OKAY. SO THIS IS SOME INFORMATION THAT'S BEING PROVIDED TO CUSTOMERS THAT THIS PRODUCT HAS AN ARC RESISTANCE WITH THE NUMBER 180; CORRECT?

A. THAT'S RIGHT.

Q. TAKE A LOOK AT EXHIBIT 904, IF YOU WOULD. AND WE'RE GOING TO GO TO THE PAGE ON ELECTRICAL INSULATION. THIS IS THAT DUREZ MANUAL. AND THIS IS ONE THAT'S GOING TO HAVE AT THE BOTTOM OF IT 899 AS THE LAST NUMBERS. 899, UNDER ELECTRICAL INSULATION MATERIALS. UNDER ELECTRICAL WHERE IT SAYS: ARC RESISTANCE.

922

A. YES.

Q. 180, SAME NUMBER AS YOUR PRODUCT; CORRECT?

A. YES.

MR. BRYDON: THANK YOU. THAT'S ALL I HAVE.

THE COURT: WITHIN THAT LIMITED SCOPE, MR. HARLEY?

MR. HARLEY: YES.

RE-CROSS-EXAMINATION

MR. HARLEY Q. DO YOU HAVE ANY IDEA WHETHER THAT NUMBER IS THE NUMBER USED BY THE MILITARY TO MEET THE SPEC?

A. THE NUMBER IS WHAT?

Q. USED BY THE MILITARY TO MEET THE MILITARY SPEC? THAT PARTICULAR NUMBER; OR DO YOU HAVE TO DO INDEPENDENT TESTING BEYOND THESE BROCHURES?

A. WHETHER IT'S PART OF THE SPEC OR NOT, I'D HAVE TO GET THE SPEC FOR THE M.F.H. PRODUCTS AND SEE WHAT THE MILITARY REQUIRED.

OFTEN, THE RESULTS ARE A LITTLE -- WELL, I SHOULDN'T SPECULATE. 30 YEARS, I CAN MAKE A LOT OF MISTAKES.

Q. OKAY. ONE OTHER -- MAYBE ONE FOLLOW-UP QUESTION: WHY IS IT CALLED GREEN?

A. BECAUSE IT WAS GREEN.

THE WITNESS: THANK YOU.
THE COURT: OKAY. WE'RE GOING TO TAKE OUR MORNING RECESS. 15 MINUTES. WE'LL RECESS UNTIL 10:45 BY THIS CLOCK.

AGAIN, I'LL REMIND YOU OF THE COURT'S ADMONITION NOT TO DISCUSS THE CASE AMONG YOURSELVES OR WITH ANYONE.

AND I'LL SEE COUNSEL BRIEFLY.

---000---

MR. BRYDON: HOLDING FOR A MINUTE.

THE COURT: MR. MARTINO, THANK YOU FOR YOUR TESTIMONY. YOU'RE COMPLETED. SO YOU MAY STEP DOWN AND YOU'RE FREE TO LEAVE.

923

BRENDA C. FIELDS, CSR NUMBER 7235

00923

(RECESS TAKEN.)
THE COURT: ALL RIGHT. THE RECORD SHOULD REFLECT THE TIME IS 10:47. ALL 16 JURORS ARE PRESENT, COUNSEL ARE PRESENT.
Q. YOU MAY CALL YOUR NEXT WITNESS, MR. BRYDON.
MR. BRYDON: YES, I WOULD CALL DR. JOHN CRAIGHEAD.
JOHN CRAIGHEAD, HAVING BEEN DULY SWORN, TESTIFIED AS FOLLOWS:
THE CLERK: PLEASE STATE AND SPELL YOUR NAME FOR THE RECORD.
THE WITNESS: MY NAME IS JOHN EDWARD CRAIGHEAD,
C-R-A-I-G-H-E-A-D.

DIRECT EXAMINATION

MR. BRYDON: Q. DR. CRAIGHEAD, WHERE ARE YOU FROM?
A. I'M PRESENTLY RESIDING IN FERNANDINA BEACH, FLORIDA.
Q. YOU HAVE BEEN ASKED TO COME OUT HERE AND TALK ABOUT OPINIONS YOU HAVE WITH RESPECT TO THE ROLE THAT THE CHRYSOTILE FORM OF ASBESTOS PLAYS IN CAUSING PLEURAL MESOTHELIOMA?
A. YES.
Q. IS THAT A SUBJECT MATTER YOU'RE PREPARED TO TALK ABOUT?
A. YES, IT IS.
Q. IN CONNECTION WITH THAT, WOULD YOU PLEASE TELL THE LADIES AND GENTLEMEN WHAT YOU DO FOR A LIVING?
A. WELL, I'M A PHYSICIAN AND PATHOLOGIST.
A PATHOLOGIST IS CUSTOMARILY BASED IN HOSPITALS. I'M PRESENTLY RETIRED AS AN EMERITUS PROFESSOR OF PATHOLOGY AT THE UNIVERSITY OF VERMONT AND SERVE AS A CONSULTANT ON MINERAL LUNG DISEASES.
Q. WOULD YOU TELL THE JURY A LITTLE BIT ABOUT YOUR EDUCATIONAL

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BACKGROUND.
A. YES. WELL, I GRADUATED FROM THE UNIVERSITY OF UTAH IN 1956, AND THEN MOVED TO -- WITH A M.D. DEGREE -- AND MOVED TO ST. LOUIS, MISSOURI, WHERE I TRAINED IN INTERNAL MEDICINE AT WASHINGTON UNIVERSITY.
HAVING COMPLETED THAT PERIOD OF TRAINING, I MOVED TO THE NATIONAL INSTITUTES OF HEALTH IN MARYLAND, WHERE I TRAINED IN EPIDEMIOLOGY, WHICH IS THE STUDY OF DISEASE IN PEOPLE OR GROUPS OF PEOPLE; AND EXPERIMENTAL PATHOLOGY, WHICH IS THE STUDY OF DISEASE AND ITS MECHANISMS USING EXPERIMENTAL TOOLS OF VARIOUS TYPES.
I WAS WITH THE PUBLIC HEALTH SERVICE AT THE NATIONAL INSTITUTES OF HEALTH FOR THREE YEARS, AND THEN MOVED TO HARVARD UNIVERSITY WHERE I TRAINED IN PATHOLOGY, BOTH ANATOMIC -- WHAT IS KNOWN AS ANATOMIC PATHOLOGY, AND CLINICAL PATHOLOGY, AT ONE OF THE TEACHING HOSPITALS OF HARVARD.
Q. AND AFTER YOU GOT THROUGH WITH THIS TRAINING THROUGH THE PUBLIC HEALTH SERVICE AND THROUGH HARVARD, WHAT DID YOU DO, PROFESSIONALLY?
A. WELL, I SAT FOR THE BOARD EXAMINATIONS IN PATHOLOGY. AND THEN I WAS APPOINTED A PROFESSOR, ASSISTANT PROFESSOR, AT

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