

FILE NAME: Westinghouse (WH)

DATE: 1968-1969

DOC#: WH141

DOCUMENT DESCRIPTION: Barry Castleman Notes on Research in PA
Archive

Westinghouse Research

- 1969 field report with Operation/Hazard/Control Measure matrix, asbestos Transite used on nose cones of products and as backstop for laser.
- Insulating materials documented as asbestos hazard

REGION VPROD. MFG. OR SERVICE LasersDATE OF ACTIVITY Jan. 21, 1968

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF HEALTH

OCCUPATIONAL HEALTH

FIELD ACTIVITY REPORT

EMPLOYEES	COUNTY
MALE	<u>02</u>
FEMALE	IND. CODE
TOTAL	<u>38</u>

PLANT

DuPont Research Laboratory

ADDRESS

Churchill Boro, Pittsburgh, Pa.

ZIP

15235

PHONE

412-256-7265

PERSON INTERVIEWED

Kenneth Steinbruegge

TITLE

Research Engineer

PURPOSE: INVEST.; SURVEY; INSPECT.; PRELIM. F.U.; CONF. VISIT;

REASON: SELF-INIT.; O.D. REP.; COMPL.; REQUEST; SOURCE

SPECIFIC HAZARD OR CONDITION	WORKERS EXPOSED	RECOMMENDATIONS		ACCOMPLISHED		
		WRITTEN	VERBAL	YES	NO	IN PROG.

SAMPLES COLLECTED

(NO. & KIND)

TOTAL

DETERM. MADE

(NO. & KIND)

TOTAL

MEDICAL - O.D. REPORTED, NO. & KIND

PUNCH CARD	YES ☐	NO ☒	FOLDER	YES ☐	NO ☒
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REMARKS:

The conference with Mr. Steinbruegge revealed the following information concerning lasers:

1. Flashtubes have a casing of quartz instead of glass, because of its higher resistance to breakage. Flashtubes may contain xenon or krypton for pulsed lasers, and Hg, Na, or K in C. W. lasers.
2. UV filters are sometimes employed between the flashtube and media for better efficiency.
3. Solid state efficiency may be 3%. CO₂ lasers may be 40% efficient.
4. The largest CO₂ laser is 190 ft. long with a mountain as a backstop. This one is owned by the Federal Government.
5. Transite is a material used on nose cones of rockets because of its very high resistance to heat, is used as a backstop for the CO₂ laser.
6. When titanium or Mg is cut, argon gas is jetted onto these materials, as they are highly explosive.
7. A new erbium doped crystal is being developed as a laser media that would emit a wavelength of 1.5 microns. This wavelength is less hazardous for the eye, states the plant engineer, since the energy is absorbed in the humors of the eye first.
8. This plant tests one of a new supply of goggles bought for use with a particular laser. The beam is passed through the goggles. If energy is transmitted through the goggles, it is noted on the ballistic thermopile. This data along with spectroscopic measurements determines whether the goggles are returned or not.

350

PA 2

(over)

By M. Choby
Industrial Hygienist

WINS. 2.0

9. Also microwave and radio wave stimulating mechanisms are used in probing technique and will not be sold to industry as they are more complicated and present more hazards.
10. Noise problems may exist when a beam is shot at a hard object (in C-switching). the noise is similar to that of a gun shot blast.
11. Coolants may be transisterised in that one-half of the transistor material is cold and the other, hot, because the heat energy goes from cold side to the hot, where it is given off.



Westinghouse Electric Co.
Pittsburg 15235

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8/29 & 9/11/68

Research & Development Center

battery laboratory

sodium hydroxide
sulfuric acid & other
chemical reagents

hoods; gloves; goggles
plastic shields

specialty coating
laboratory
paint spray booth

epoxys; methyl ethyl ketone
methanol

hoods; goggles; safety can

environmental exposure
room
electric furnaces

heat;

isolation

stockroom

chemical reagents; solvents
& varnishes

isolation

plating room

cyanide baths; nickel;
gold, silver, cadmium &
rhodium plating
sulfuric acid; nitric acid

slot ventilation (exhaust)
aprons, gloves; goggles
cyanide kits

water purification
apparatus

none

none

corrosion technology
laboratory

high temperature corrosion
heat;

isolation & insulation

lubrication laboratory
potentiometers

tungsten callanide
argon cylinders; testing
of lubrication of bearings
in hot sodium hydroxide
sulfur hexafluoride
noise

hoods; exh. ventilation
ear muffs; hearing tests

Westinghouse Electric Corp.
Pittsburgh

-5-

8/29,

gas laboratory

shooting electrons through
gases

shields, film badges, etc.
posters - all radiation
protection equipment

Machine Shop
lathes, drills, presses, etc.
gas cylinders N_2
 CO_2

cutting oil, noise
oil mist

aprons, gloves, ear muffs, etc.
hoods, exhaust ventilation

physics of insulation

insulating materials
rubber, asbestos, fiberglass
making insulation for
Capacitors

hoods, exhaust ventilation
gloves, protective clothing, etc.

Hi voltage test lab
testing contacts

electric shock
oils-halogenated oil

insulation, exhaust ventilation

polishing crystals

various reagents

hoods, exhaust ventilation

fuel cell lab

carbon monoxide
vanadium
acid mist

hoods, exhaust ventilation

electric catalysis

organic solvents

hoods, exhaust ventilation

Revised

BY: L. J. A. [illegible]
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