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DATE: 1950

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Exh 593

Per Air Mail.

No. 42.

320

Produced in the matter of
Asbestos Personal Injury Cases;
Abrams Lead & copied to
Richard F. Scruggs.

PLAINTIFF'S
EXHIBIT

10,130

SYDNEY, 26th August,

3.

The Secretary,
Australian Blue Asbestos Ltd.,
18 William Street,
PERTH.

Dear Sir,

We have to acknowledge the receipt of your letters
Nos. 39 to 41, also Mr. Broadhurst's Nos. E31 and E32.

J.S. FILSHIE (No. 39). We do not consider we
should assist Filshie by paying him an additional allowance
because he has been unable to find a house for his wife and
family.

Filshie understood that he would be at Wittenoom,
not Perth, until such time as he takes up the position of third
engineer at Cottesloe, hence, from our point of view, his
family could have remained in their house at Yarreville until
Filshie went to Cottesloe Refinery. In fact, we want to save
trouble to endeavour to prevent Mrs. Filshie going to Western
Australia as we did not believe this to be a wise move.

From your letter No. 39, we understand, however,
that whilst Filshie has been in Perth he has had to pay £2.10. 0
per week board instead of the 35s. 0d. we gave him as a living
allowance, and we are prepared, under these particular circum-
stances, to increase his living allowance whilst in Perth to
cover the actual board he pays to a maximum of £2.10. 0 per
week. This allowance may be made retrospective to cover the
whole period Filshie has spent in Perth.

We do not anticipate that Filshie will be spending
much additional time in Perth whilst he is on the Asbestos
project, and whilst he is at Wittenoom, of course, he will
receive only 35s. 0d. per week living allowance.

ENGINEER'S STORE (No. E.31). We telegraphed you
on the 13th instant agreeing to the construction of a hip roof

on the Engineer's Store.

MATERIAL. Further to the advice given in our letter No. 38, the dies forwarded from here were as follows:

Five BAE dies (3/16", 1/4", 5/16", 7/16" and 5/8") and eight Whitworth dies (5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4" and 7/8"). One set of stocks for each set of dies was also forwarded.

BUILDING. The outstanding Cane-ite mentioned in our letter No. 24 has now been forwarded.

LABOUR. (No. E.32). We note your remarks with regard to the possibility of having our Asbestos project declared a protected undertaking, but we consider that it would be desirable to obtain such protection immediately.

Unless you have any further comments to make on this matter, we propose, therefore, to apply for such protection, and, in order that we may do so, we would ask you to obtain the necessary forms from the Deputy Director of Manpower, and to fill these in in pencil and forward them to us for lodgment. Any information you cannot fill in may, of course, be left to us.

YAMPIER GORGE PLANT. (No. E. 32). With regard to your queries under this heading, we would say that no visitors are to be admitted to our mill except by instruction from this office, nor should any technical information regarding our plant or process be given to anybody. We are quite prepared, however, to give ordinary engineering assistance and other help, such as it is reasonable to give in order to be neighbourly and hospitable.

TECHNICAL BOOKS. We have purchased Kent's Mechanical Engineer's Handbook (two parts), for use at Wittenoom, but so far we have not been able to locate a suitable Electrical Handbook.

We have also been unable to obtain the Refrigeration Service Manual you requested, but F.C. Lovelock & Co., Sydney, advise that they may receive a fresh supply of copies from England in a month's time.

Kent's Handbook is being forwarded to Perth under separate cover.

We are agreeable to you subscribing to the "American Mining Journal" and "Asbestos", and will leave you to make the necessary arrangements through a local publishing or book seller.

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Australian Blue Asbestos Ltd.

agency for copies to be forwarded to you regularly.

We consider these publications should be sent to you in the first place, and after perusal at your office, they should be sent on by you to Wittenoom.

SALES OF FIBRE. (Your No. 41). We would prefer not to market any of our products through an agent, such as Hassel, and we will deal with and quote to principals direct, when the time comes. If we are asked by the principal to pass the business through an agent, any commission will be to the account of the principal, and our price will remain the same.

With regard to the letter from Carters Ltd., London, a copy of which was attached to your No. 28, you should answer this and state that our mill is not yet in operation but that we will submit samples and advise them as regards prices and terms when the mill commences production.

JOB NUMBERS. The following items have been added to the list of job numbers for the asbestos mill:

Concrete Mixer	904
Pedal Wireless Set	905
Ford V8 Truck	1000
International Utility	1001
Ford V8 Sedan	1002

OIL TANKS. We note from plan B.M.D. 10037 that you intend placing these tanks with 10'0" clear space between them. We did not make our suggestion in this regard clear in our No. 38. We actually meant the tanks to be at 10'0" centres, leaving 3'0" clear between tanks.

Yours faithfully,

Managing Director.

Ex 590

KENT'S
MECHANICAL ENGINEERS'
HANDBOOK

IN TWO VOLUMES

Design and Production Volume

Prepared by a Staff of Specialists

COLIN CARMICHAEL

Editor

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TWELFTH EDITION

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INSTRUCTION AND EQUIPMENT

dust are conditioned by introducing some rain. Since electrostatic precipitators are most effective on even the finest particles, they are the usual type of collectors for the final cleaning. They are represented by the single-stage and

commonly known as the Cottrell system for industrial applications. The particles are attracted to electrodes, and the discharge is main-

discharge electrodes must either be small or square steel rods are generally used. There are several designs of collecting electrodes, and the type used depends on the application. In the earlier designs they consisted of vertical pipes, 3 to 12 in. in diameter and 5 to 15 ft long. These are now most commonly used in the wet-type precipitators, whereas plate-type collecting electrodes are generally used in the dry precipitators.

The plate type consists of a series of parallel plates between which the discharge electrodes are suspended. There are several modifications of the plate type, such as steel plates that are sometimes corrugated, rod curtains that consist of a number of small rods or pipes hung close together, concrete plates with the conductor rods embedded in them, perforated or dual plate type consisting of perforated plates welded up in cells, and pocket electrodes in which the pre-When the plate-type electrodes are used, 3 to 6 in. or less, and one or more cells are used as desired. Figure 9 shows a single-stage plate-

collecting electrodes, some method must be used. In the wet precipitator the gas flow is up-lecting surface to carry off the precipitated may be either vertical or horizontal, and piping or rapping them. Compressed air or and the frequency and duration of the rap-

port the high-voltage direct current consists of an electronic rectifier. The voltages most 10,000 to 15,000 volts. The mechanical rectifier is usually electronic type consists of a group of electro-

Either type of rectifier gives equally satisfac-

tron type requires less space, the control is more complicated. The power consumed at the voltage is high, the current is very low 1 kw/hr per 100,000 cu ft of gas cleaned.



precipitator.

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DUST-COLLECTOR SYSTEMS

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Double-stage type electric precipitators consist of units in which a pre-ionization stage is used ahead of the collecting stage. Figure 10 illustrates the principle of operation of this type of precipitator. The corona discharge takes place in the first or ionizing stage, and the dust is precipitated on alternating, oppositely charged, plates in the second or col-

lecting stage. Lower voltages are used, usually 10,000 to 14,000 volts in the ionizing section and 5000 to 7000 volts on the collecting plates. With these lower voltages the plate spacing must be considerably closer, usually $\frac{1}{2}$ to 1 in. As a result of this close spacing, this type of precipitator is generally used only when the dust concentration is low. High concentra-

tions would require too frequent cleaning to prevent the dust from building up on the plates to a point where the current would arc over.

The collecting plates, which are usually coated with a viscous material to hold the dust, are contained in cells that can easily be removed for cleaning by washing off the plates. Each cell handles 600 to 750 cu ft per min.

Provision is made in some units for automatic-

ally washing and recoating the plates, without removing the cells, by the use of movable spray nozzles. The cells being cleaned, however, must be disconnected electrically and dampered off from the gas flow. In one type of unit the cleaning plates are continuously rotated through a bath of viscous fluid for automatic cleaning.

Electronic rectifiers are used with this type of precipitator, and the power requirements are of the order of 0.01 to 0.02 kw per 1000 cu ft per min. The gas velocity is 300 to 400 ft per min so that the resistance to flow is only a few tenths of an inch water gage. Since the voltages are much lower than in the single-stage type, the ozone produced is much less. Although the double-stage precipitator is suitable only for use with low dust concentrations, it is most satisfactory for cleaning air to be used for ventilation in an occupied space since its cleaning efficiency is very high even for the finest particles, and the ozone produced is very low.

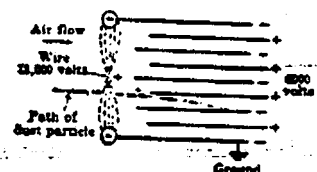


Fig. 10. Principle of operation of double-voltage type electrostatic precipitator.

26. DUST-COLLECTOR SYSTEMS

FACTORS INFLUENCING DESIGN AND REQUIREMENTS. The most important factors that influence the design and requirements of a dust-collector system are those that determine the need for the system.

Improvement of working conditions is probably one of the most common reasons for the installation of a dust-collector system, and its importance should not be underestimated. In any process where dust is produced, the elimination or control of the dust pays dividends in improved efficiency of both workmen and machines. The control of the dust at its source is the important requirement, and the best design is the one that will accomplish this control with minimum amount of air.

Health of workers is the most important reason for the control of dusts, and, in the design of systems where health conditions are involved, adequate design must take precedence over economic considerations.

State laws, which usually govern the requirements of such systems, should be consulted when the design is being considered. For example, the maximum allowable concentration of such poisonous dusts as lead dust in some states is 0.15 mg per cubic meter of air. Table 3, which gives the probable safe limits for several harmful types of dusts in millions of particles per cubic foot of air, is based on the light field microscope counting technique.

Table 3. Probable Safe Limits for Several Harmful Dusts in Million Particles per Cubic Foot

Type of Dust	
Asbestos dust	5
High silica dust (100 to 50% free silica)	5
Medium silica dust (50 to 5%)	20
Low silica dust (5 to 0%)	50
Marble	20
Granite	10
Silver	12

Nuisance Elimination. In addition to removing the dust from the working area, dust-collection systems are needed to prevent dust's being a nuisance to the surrounding

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