

IN THE ROYAL COURTS OF JUSTICE
KING'S BENCH DIVISION

Case No: KB-2021-004208

Strand
London
WC2A 2LL

Wednesday, 22nd November 2023

Before:
HER HONOUR JUDGE COE KC
SITTING AS A DEPUTY HIGH COURT JUDGE

B E T W E E N:

Mrs Rosemary DEAN
(Executrix of the Estate of Mr Philip Dean, deceased) Claimant

and

ARMSTRONG OILER COMPANY LTD Defendant

MR S KILVINGTON KC appeared on behalf of the Claimant
MR J FERRO appeared on behalf of the Defendant

APPROVED JUDGMENT

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HHJ COE:

The claim

1. Philip Dean died on 9 June 2020, 10 months after he was diagnosed with mesothelioma. He was aged 77. The claimant is his widow and brings this claim, issued on 15 November 2021, on her behalf and on behalf of the deceased's estate, of which she is the executrix.
2. Mr Dean was employed by the defendant company as an apprentice loom turner, maintenance officer and then foreman between 1959 and 1972 at its factory in Lendal Bridge, York.
3. It is the claimant's case that he was exposed to asbestos dust when inspecting and working on an air compressor located outside the factory building. The air compressor was near to a boiler, which is alleged to have been insulated with lagging containing asbestos. It is the claimant's case that the lagging was unprotected and so when Mr Dean brushed past it in order to get to the compressor he was exposed to respirable dust containing asbestos.
4. He says that there would be dust from the lagging on the boiler and on the ground, which would be disturbed by wind or air currents and his own footfall. In his statement Mr Dean says that the dust from the lagging would also get onto his overalls or smock coat and he would brush that off. Brushing it off would create a cloud of dust. There was also one occasion when he knocked into the lagging in the course of removing the compressor for repair and was again exposed to the dust.
5. He says that this exposure occurred during the last nine years he was employed by the defendant, at which time he was a foreman having completed his apprenticeship. The exposure is therefore said to have occurred between about November 1964/May 1965 until 1972.
6. The defendant denies liability.
7. Quantum has been agreed subject to liability in the total sum of £200,000.
8. This is the *ex tempore* judgment in this case, which I heard on 7 and 8 November of this year.

Witness statements, expert reports and documents at trial

9. Mr Dean made a witness statement before he died, which is in the bundle at page A54. In light of the fact that quantum was agreed, although I have a statement from Mrs Dean, I did not hear from her. There is no lay or documentary evidence from the defendant.
10. There is evidence on behalf of the claimant from Mr Christopher Chambers, a health and safety expert who has provided a report dated 13 February 2023. On behalf of the defendant, I have evidence from Mr Graham Glenn, an engineering expert, who has provided a letter dated 15 December 2021 and a report dated 8 December 2022. At page

207 in the bundle is the joint engineering report of the experts dated 22 March 2023.

11. There are medico-legal reports on behalf of the claimant from Dr Beckles dated 4 May 2020 and 24 March 2021
12. I have Bundle A containing the pleadings, court orders, statements and expert reports and Bundle B containing Mr Dean's medical records. Bundle C is in four volumes and contains what is listed as "Enclosures from the engineering report of Mr Chambers...including in particular at page 1038, Her Majesty's Factory Inspectorate Technical Data Note 13 dated 1970". I was not in fact taken to anything other than very few of the documents in Bundle C. In addition, I have in Bundle D, Technical Data Note 2 of 69 providing threshold limit values for 1969.
13. I also had the skeleton arguments on behalf of both the claimant and the defendant, a bundle of authorities on behalf of the claimant and I was, in addition, referred to some authorities by the defendant.

The parties' cases

14. The particulars of claim sets out the allegations in respect of particulars of knowledge and the risk and the duties that were owed to the deceased.
15. By its defence the defendant sets out, first of all, that the defence is filed on behalf of historic employer liability insurers, the company having gone into voluntary liquidation as long ago as 2020.
16. The defendant admits the application of the Factories Act, but denies the application of the Asbestos Regulations. In fact, that point is conceded in the claimant's skeleton argument in any event.
17. The claimant's case is summarised at paragraphs 11 and 12 of her skeleton argument as follows:

"It is the claimant's case that there is a careful and reliable description of the circumstances in which it is wholly likely that there was exposure to asbestos dust and fibre over a period of many years (from 1964/65 to 1972) throughout most of which period (from 1965 onwards) it was or ought to have been known that there was no safe level of exposure and that the risk was one of death and where the precautions to avoid that exposure were simple and inexpensive, so that there is a clear breach of the duties (at common law and under the first limb of section 63(1) Factories Act 1961 concerning dust that is "likely to be injurious") requiring foresight of harm.

Furthermore, it is the claimant's case that each of the release of dust from friable lagging, the raising of visible dust that had collected on the floor and the production of "a cloud of dust" when lagging dust was knocked off clothes amounted to "any substantial quantity of dust of any kind" within the meaning of the second limb of s.63(1) Factories

Act 1961.

The defendant has not pleaded and cannot prove [any or] “all practical measures [were] taken to protect the persons employed against the inhalation of the dust” such that there is a clear breach of that statutory duty (not requiring foresight of harm)”

18. The defendant admits the details of the period of the deceased’s employment and his roles with it and that he developed mesothelioma from which he died.
19. However, the defendant denies that the insulation on the boiler was unprotected and denies that the lagging contained asbestos. It further submits that even if the insulation contained asbestos, the deceased’s exposure to asbestos would have been in such small quantities and so infrequent that any alleged failure to take precautions to prevent or reduce such exposure did not amount to a breach of duty in circumstances where the deceased’s development of mesothelioma was not reasonably foreseeable.
20. As the defendant’s skeleton sets out, it is disputed that walking past the outdoor boiler would generate any significant amount of dust and even if so, it is denied that any such dust was likely to have contained asbestos.
21. It is the defendant’s case that it is highly unlikely that the boiler insulation would have been left exposed to the elements in an outdoor environment and it is more likely that the boiler insulation was encapsulated in a plaster coating and that any dustiness came from that plaster coating and/or general ambient dust.
22. The defendant says that,

“Even if the insulation was exposed to the elements with no protecting encapsulation and even if there was a release of dust, it is denied that there would have been an associated asbestos exposure so significant as to have been foreseeably hazardous judged by the standards at the time”.
23. It is set out that the percentage asbestos component of the lagging is unknown and in any event the disturbance of the insulation would have been momentary at most and in an outdoor environment so that such exposure would not have been regarded at the time with which I am concerned, as exposing the deceased to a reasonably foreseeable risk of harm.
24. The defendant does not accept the deceased’s account of his exposure and as I have already indicated, by the standards of the day denies that he was exposed to a foreseeable risk of injury and that there were not dangerous and persistent levels of respirable asbestos dust.
25. The denial of the exposure to foreseeable harmful quantities of asbestos dust is essentially therefore the basis of the denial of breach of statutory duty and negligence.
26. Dr Beckles reports that Mr Dean had malignant epithelioid mesothelioma of the left pleural cavity. On the premise that he was only exposed to asbestos whilst employed by

the defendant, Dr Beckles concludes on the balance of probabilities that it was this employment that was responsible for the causation of his mesothelioma. The defendant does not rely on any alternative medical evidence and therefore subject to the issues of breach of duty, causation is not in dispute.

Evidence

27. Mr Dean's statement is at page 54 in the bundle and effectively the section beginning at paragraph 37 is all the evidence I have in the case in relation to exposure.
28. He sets out that he was responsible for looking after the compressed air pipework. The boiler was located outside and positioned right next to the compressor. It was about five feet high, a metre wide and about five to six feet long, positioned between two buildings under a cover. He says that the boiler was lagged with the same material throughout his period of employment, it was a "dusty, plaster-like material that was off-white in colour" and he says, "I believe that the lagging was asbestos". He describes how, "the lagging went up the sides of the boiler, raised up over and on to the top and it was like plaster, which had been worked round".
29. He says that he went there, or somebody from his team went there every few days, around three or four times a week as far as he remembers, to check the air compressor was working or to carry out maintenance or repair work. He is not sure if somebody went every day. He says that sometimes more major works were needed and he recalls the occasion when the compressor had to be removed and brought into the workshop and he oversaw that work. He says, "There was not a lot of distance between the two pieces of equipment, there was only just enough room to manoeuvre the compressor onto a small trolley to take it round the boiler".
30. He describes how he had to brush past the boiler when he went to check the compressor and would knock and rub against the lagging material every time he did so. Dust from the asbestos lagging would be disturbed and would get onto his work clothes as well. He says that a lot of the dust would collect in that area and that would have included dust from the asbestos lagging, He was not aware that the area was ever cleaned. As well as knocking and brushing against the lagging he would walk through and disturb the dust on the floor in the course of his work. He said when he had finished checking on the air compressor he would often knock dust from brushing against the lagging off his clothes using his arms and hands to remove the dust and then he could see a cloud of dust in the air coming off his overalls. He also says that,

"If it was a bit breezy or there was a draught going through the area between the buildings the dust that had collected there would sometimes get blown around while he was working there and that blew the dust into the air, including the asbestos dust that had collected there".
31. I have no other information apart from the deceased's statement about the relevant building, although there is a photograph in Mr Chambers' report at page 101 that simply accords with the deceased's description of this being a very old factory building.

32. The defendant relies in particular in terms of evidence on some entries from the deceased's clinical records to suggest that, in fact, he had no reliable recollection of any asbestos exposure during his working life. Those details are helpfully set out at paragraph 6 of the defendant's skeleton argument.
33. Beginning in January 2019, there is a GP entry referring to "no asbestos exposure" which is passed on in the lung cancer referral form as "Never knowingly been exposed to asbestos". The chest physician responded, "Ex engineering, no asbestos". There is another entry from the chest physician saying, "He has no known exposure to asbestos". A CT scan report states "there is no evidence of previous asbestos exposure".
34. By August 2019 when the diagnosis of mesothelioma was conveyed to the deceased, it is reported that he said that he did not recollect any exposure, but had worked as an engineer and had been in places where there could have been potentially asbestos. There is another note in August, which says that Mr Dean had worked in the Navy and was being referred for possibly making a compensation claim and it was explained to him that a solicitor would go through all his work history and visit him at home to discuss the prospects of a claim.
35. On the same date there is an oncology manuscript note, which reads, "Boiler in the first role probably had asbestos", The words "may have" have been crossed out, and on 21st, there is reference to Mr Dean having various roles, "Through the 50s, 60s and 70s with potential exposure to asbestos, although nothing he can clearly identify".
36. I was not referred to any of the other medical records.
37. The experts, from whom I heard oral evidence, confirmed the opinions in their reports and the joint statement. In essence, Mr Chambers on behalf of the claimant says that,

"If the Court accepts the deceased's account, then that account is consistent with exposure to unprotected lagging, which more likely than not would be lagging which contained asbestos and which would be friable and would have given off dust".
38. He says that,

"The defendant should have been aware of the risk of exposure to asbestos before 1965, but from 1965 should have been aware of the risk from exposure even to very small quantities of asbestos, by which time it was generally recognised that such exposure could give rise to a risk of mesothelioma".
39. Mr Chambers emphasised that there is no evidence of any attempt by the defendant to measure the deceased's exposure, in those circumstances it is said that the defendant should have proceeded on what the maximum potential exposure might have been in light of the significant risk to the deceased, given that on the claimant's case the boiler was unprotected.
40. Mr Chambers considers that an employer had a duty to take steps, whatever the level of exposure, to reduce it as far as practicable in accordance with a hierarchy of measures.

In this case, the necessary precaution would have been to cover the insulation, which was a simple and inexpensive step, which would have provided complete protection to the deceased.

41. He disagrees with Mr Glenn's opinion that an assessment of exposure would have concluded that the level was so low that no steps needed to be taken and disagrees with the likely level of exposure.

42. He says therefore that the defendant's overriding duty was to reduce the deceased's exposure to the lowest level reasonably practicable. In his view, Technical Data Note ("TDN") 13 is not a trigger for foreseeability and at page 119 at paragraph 3.9(1) he sets out,

"It is therefore likely that any person exposed to asbestos dust concentrations of 50 fibres per ml for 2.4 seconds", [which is his estimate of the level of exposure], "would have been exposed to asbestos dust at a level above the numerical standards contained at TDN13 for crocidolite. It is however unlikely that the deceased would have been exposed in excess of that value for amosite or chrysotile unless there was a prolonged disturbance of the lagging".

43. As far as the claimant's second argument is concerned in respect of exposure to a substantial quantity of dust, that is, the "cloud of dust" which the deceased referred to, he says that the issue is whether or not the defendant was in breach of their duty to take all practical measures to prevent the inhalation of that substantial quantity of dust.

44. Mr Glenn in his letter and report and in the joint report supports the defendant's case as set out in the skeleton argument and as put in submissions, namely that the deceased was exposed to so little dust, even assuming it did contain asbestos, and so infrequently that the defendant could properly say that the risk was so low that there was no need to take any precautions.

45. It is Mr Glenn's opinion that the risk cannot be eliminated entirely, but may be so low that precautions are not required, particularly where the official guidance at the time was not to avoid all exposure to asbestos. In his view the exposure here was so low in light of the quantity and the frequency that it would not occur to a reasonable employer that precautions ought to be taken.

46. Mr Glenn relies on TDN13 (from 1970) to say that, "if the exposure was below this hygiene standard (as it became known) then no precautions were required" and it is Mr Glenn's view that the deceased's exposure was below that standard.

47. Mr Glenn does not accept that the hierarchy of measures set out in the particulars of claim (by reference to guidance and statutory provision) applied to this *in situ* asbestos-containing material and would not have been understood by a reasonable employer as applying to such a situation, guidance not being published until 1983.

48. All exposure to asbestos was not prohibited at the relevant time, but there was a threshold limit value for exposure to asbestos and the inference to be drawn, he says, is that further

action to achieve satisfactory working conditions was not necessary when the exposure was below that average concentration. It was not until December 1976 that official guidance was given to employers and other duty holders to reduce exposure to asbestos to the lowest level reasonably practicable.

49. Given the relatively narrow focus of these arguments on behalf of each party I do not consider it is necessary to set out for the purposes of this *ex tempore* judgment all the detail of the evidence, in particular in the experts' report, nor to review the huge volume of documentation in Bundle C.

Issues and analysis

50. Many of the issues that would arise in mesothelioma claims following exposure to asbestos are admitted, agreed or not in issue here and I therefore intend to identify the matters, which I do have to decide, consider the evidence in relation to each issue and reach a conclusion upon each in turn.
- (i) Reliable recollection of exposure
51. The first issue to address therefore is the defendant's submission, which I have already set out that the evidence from the deceased's clinical records suggest that he had no reliable recollection of any asbestos exposure.
52. It is important to note that these are clinical notes. They begin with the initial referral when there was a suspicion of lung cancer when Mr Dean first contacted his general practitioner in January 2019. The ultimate diagnosis was relayed to him in August 2019. The general practitioner noted "no asbestos exposure" and it seems to me likely that this informed the basis for the referral form and the initial report from the chest physician back to the general practitioner. In other words, this was probably the source of the repetition. Of course, we do not know what Mr Dean was asked. If he was asked if he had ever worked with asbestos then he may very well have answered "no". Any questions would not have been, on the balance of probabilities as I find, particularly probing at that stage.
53. The CT scan report states "no evidence of previous asbestos exposure", which again seems to me to be the view of the person reviewing the scan and reporting on what it shows and not necessarily information which came from Mr Dean.
54. It is only when the diagnosis is made and Mr Dean was told that mesothelioma is almost always caused by exposure to asbestos (normally at work) that he said that whilst he did not recollect any exposure he had worked as an engineer and had been in places where there could potentially have been asbestos.
55. This was followed up when compensation claims were being discussed by the cancer nurse. Mr Dean and the claimant were advised to consult a solicitor. It would be the solicitor who would go through the work history and this seems to me to be what has happened here. There is a manuscript note in August, which says that the boiler in his first role probably had asbestos. I find on the balance of probability (indeed I am sure) that this is the boiler with which I am concerned. It is indicated that at the same time Mr

Dean could not clearly identify exposure to asbestos. In the statutory scheme application for payment his solicitor identified that this was a likely source of exposure, although there may possibly have been asbestos elsewhere.

56. In my view, and I find that this follows an unremarkable pattern following initial questioning through to the diagnosis, and then some more in depth questioning and recollections leading to the identification of the boiler at the defendant's premises as being the likely source of asbestos exposure, and indeed on Mr Dean's case the only such source.
57. I should also mention, as was submitted on behalf of the claimant, that Mr Dean's diagnosis would obviously have come as something of a shock and he may not therefore have been concentrating on his employment history. Dr Beckles at A78 sets out that, "Patients often do not recall exposure when asked, particularly if the question is whether or not they worked with asbestos".
58. I therefore reject the defendant's submission that there is no reliable recollection here. Even though not identified initially, this boiler was specifically identified as the source of asbestos exposure. I accept that by the time Mr Dean had consulted solicitors and the decision to bring the claim had been made, the boiler had been identified with a degree of certainty.
59. I should note for the sake of completeness that the cancer nurse specialist also put into a note that Mr Dean had worked in the Navy. That was clearly an error. He never worked in the Navy and I repeat the point I made earlier, these are clinical notes and do not constitute the sort of detailed exploration of work history that would be taken by a solicitor.
60. In the circumstances, I find that Mr Dean's account as crystallised is reliable. Its detail is convincing and not as I find exaggerated, for example in relation to the duration of his exposure.
61. In the circumstances, while I was referred to the case of *Gestmin v Credit Suisse* [2013] EWHC 3560, I do not find that it is helpful in terms of any general principle in this case, which is not a commercial case with a large volume of documents going to liability.
 - (ii) Was the boiler protected and (iii) did the insulation contain asbestos?
62. The next two factual issues for me to decide are linked. These are whether or not the boiler was protected, in other words whether there was a covering of sheet metal or plaster over the insulation and secondly, whether the insulation if unprotected contained asbestos. Resolution of those issues depends in large part on the deceased's own evidence as interpreted or commented on by the experts.
63. As I have already set out, Mr Dean describes the boiler as being lagged with the same material throughout the period of time, which he describes as a "dusty plaster-like material off-white in colour covering over the boiler". He said it was like plaster, which had been worked around; he also says that he believes it was asbestos.

64. Mr Glenn on behalf of the defendant says that,
- “It is highly unlikely that an outdoor boiler at the defendant’s factory would have exposed lagging on it and it is far more likely that it was encapsulated. That is because even being under a cover exposed insulation would be vulnerable to damage from damp, birds, mice or other animals, even if the canopy was large enough to keep out precipitation generally, it would not protect against high winds or precipitation that might come in from the side”.
65. Mr Chambers on behalf of the claimant, although expressing the view that if the canopy was large enough it might protect the boiler against rain, snow or sleet, does accept that lagging is fragile and easily damaged and should almost always be protected by a covering. Damaged insulation, both experts agreed, would not be efficient. Leaving aside therefore the safety of that exposed asbestos-containing insulation, in terms of efficiency the lagging should have been covered.
66. Mr Glenn puts forward two options for such a covering, the first is sheet metal and the second is plaster. Mr Chambers suggests that the alternative to sheet metal would be a substance, which he described as being called “Bulldog”, a hard cement-like material, which would itself contain asbestos, but which would not be friable like lagging. He said that “Asbestos cement would be used as a protective cover more often than plaster”. Thus, he said that the most likely candidates would be a version of Bulldog known as BD2, or sheet metal. (There was a material called BD6 introduced later, but clearly could not have been what was on the boiler, given Mr Dean’s evidence that it was the same lagging throughout his period of employment).
67. Mr Chambers’ evidence was that the protective covering would not be friable and Mr Dean’s description did not sound like asbestos cement or a protective covering at all, but sounds more like lagging. Mr Chambers said he had not heard of plaster being used for such a covering and he also confirmed that the asbestos-type cement that he was referring to would not be dusty.
68. Mr Chambers’ evidence was that while it would be a bad idea to leave lagging uncovered, but that does not necessarily mean it did not happen. It was suggested on behalf of the defendant that since external heating engineering specialists came to maintain the boiler, they would have alerted the defendant to the need to protect the insulation. There is no evidence in support of this and whilst Mr Chambers accepted that in an ideal world such advice would be given, firstly it may not have happened and secondly, as I find and agree, if the heating engineers did give such advice there is no way of knowing how the defendant responded to it or might have responded to it. They might simply have ignored it.
69. I do not find that the boiler was encapsulated in sheet metal because it would be completely inconsistent with Mr Dean’s evidence. There is no evidence to suggest it was covered in sheet metal, if it were then Mr Dean’s evidence about the plaster-like substance would have to be completely unreliable and I do not find that it was. Mr Dean’s description is also not consistent with the Bulldog cement-like covering, which

Mr Chambers refers to. The only alternative put forward on behalf of the defendant therefore is of a plaster covering.

70. It is Mr Glenn's evidence that a plaster-like material is an accurate description of plaster. He accepted that the sort of plaster that one has internally in houses would not be suitable and would deteriorate and fail rapidly, but the plaster he had in mind would be more like a Plaster of Paris type material, namely a hard substance. He said that there was always a hard coating over asbestos lagging in his experience. However, Mr Glenn was not able to tell me what the constituents of the Plaster of Paris type material he was referring to would be.
71. In his oral evidence for the first time he said, (it is not in his report) that, "a plaster coating might be preferable outside". I do not give a great deal of weight to this evidence, partly because it is not referred to in the report, but also because Mr Glenn did not expand on that, he used the word, "might", and he gave no other reason as to why plaster would be used outside.
72. He told me that he had never been to an outside boiler "on more than one occasion" and when asked again about the Plaster of Paris type material he was referring to he said that it was his understanding that "such a covering might have been in place". He did not give the basis of that understanding.
73. On the basis of the evidence I have heard it seems to me that I only have reliable evidence that a boiler could have been protected either by sheet metal, which I find this boiler was not, or by the Bulldog solid cement-like material Mr Chambers refers to. I am not satisfied on the balance of probabilities that Mr Glenn's evidence that a Plaster of Paris type covering would be the likely protection is established in any sense. He could not identify what it would be, he could not tell me why he thought it might be such a material. He did not give examples of such protection.
74. I accept Mr Dean's evidence describing the dusty plaster-like material and that that would not be consistent with a hard covering and conclude therefore that the insulation on this boiler had no protective cover although it was under a canopy, which must on the balance of probabilities have afforded it protection from precipitation from above because Mr Dean describes it as being the same insulation throughout the period of nine years or so and it did not deteriorate or become detached or washed away substantially, even if it was damaged and/or deteriorating.
75. That leads me to the second linked issue, which is whether or not on the balance of probabilities I find that in light of Mr Dean's description and the expert evidence, the insulation contained asbestos.
76. In terms of my assessment of Mr Dean's evidence, (which is relevant to the question of exposure in particular), the defendant submits that I should not uncritically accept the assertions in his statement, especially where there are inconsistencies. The defendant also suggests that there are ambiguities and that the claimant should not be allowed to read more into the statement than is in fact there.
77. Whilst accepting those points in principle, I find first of all that there is no lay evidence

other than that of the deceased and in effect the only challenge to his evidence comes from the expert opinion of Mr Glenn.

78. Where however the expert opinion supports the deceased's account or based on expertise interprets that account, I can and should accept it if I find it to be accurate. The opposite of course is also true. Similarly, where there is no reason to challenge the deceased's account it seems to me that it is the best evidence I have and no real reason has been put forward to discount it, (except by reference to the clinical records, which I have dealt with above).
79. Of course, I accept the deceased's evidence could not be tested by way of cross-examination and I have to factor that in to the weight I give it. Mr Dean says, as I have described, that the lagging on the boiler was a dusty plaster-like material off-white in colour. He said that he believed it was asbestos, although, as the defendant points out, he gave no reason for that belief. I find that his description, for the reasons I have already referred to, is of the insulation material itself. Importantly, in my view, Mr Chambers said that people frequently refer to a plaster-like material when describing asbestos lagging or lagging containing asbestos.
80. Moreover, the evidence of Mr Chambers is that Mr Dean's description is consistent with a description of insulation containing asbestos. Mr Glenn agreed that if the dust was coming from the lagging (rather than ambient dust present in the factory yard anyway) then the lagging was unprotected, and unprotected asbestos lagging is friable and liable to crumble and give off dust. Mr Glenn told me that he accepted that if it was lagging it was likely to have been asbestos lagging, even though in his report he says that asbestos was not universally used. He further conceded that in the unlikely event that it was unprotected, which I now have found it was, and dusty and plaster-like, then on a balance of probabilities it must have had asbestos in it, asbestos containing lagging being predominantly used at that time.
81. I therefore find on the balance of probabilities that this unprotected insulation contained asbestos, that is the overwhelming likelihood for insulation in the early 1960s and even if there were other insulation options available it is apparent from the expert evidence that asbestos-containing lagging was used most prevalently and Mr Dean's description would be consistent with such unprotected asbestos-containing lagging.
82. That is the view in fact of both experts and if I refer in the bundle to page 102 at paragraph 3.2(1) Mr Chambers sets out,

“Until the very late 1960s the only real competition for asbestos as insulation to hot surfaces was glass wool, this was very different asbestos lagging, it was yellow and very fibrous like loft insulation and it was not until the very late 60s and into the early 70s that asbestos-free plaster-type lagging materials became commercially available”.
83. At page 209 at paragraph 18 the experts say, “We agree that asbestos lagging was extensively although not universally used in the United Kingdom for insulating boilers and other hot surfaces until the very late 1960s and in some circumstances into the early 70s”.

84. In those circumstances Mr Dean's account is supported by the experts and, wherever his belief that it contained asbestos originated from, I find that it did in fact contain asbestos.
- (iv) The deceased's exposure to asbestos
85. In terms of Mr Dean's exposure to that asbestos I have already set out his account. The claimant relies on the frequency of exposure, which would have been when he went to see to the air compressor three or four times a week and would involve the activities that I have already referred to, disturbing the dust on the lagging and on the floor and being blown up by wind and having to be brushed off his clothes.
86. Through its expert, Mr Glenn, the defendant suggests that if there was room to get the air compressor through on a trolley there was no need for Mr Dean to be brushing up against the boiler on every occasion and so it may have been less frequent than he says. However, there is no evidence to support anything other than Mr Dean's account of the frequency and in particular there is no reliable evidence of the layout between the air compressor and the boiler under the canopy. Mr Dean describes this occasion when he had to remove the air compressor and that there was room to do so. Of course, there are several possibilities, whether the air compressor was behind the boiler, whether it was next to the boiler, whether there was a big enough gap for it to be removed on a trolley but still when it was in place only a small gap.
87. However, it is wrong for me to speculate, I simply do not have the evidence about the layout. What I do have is Mr Dean's account of having to brush up against the boiler every time. It seems to me inherently unlikely that he would have chosen to brush up against the boiler, particularly if he got dust on his clothes by doing it, if he did not have to and I reject Mr Glenn's suggestion, and it is nothing more than a suggestion on his part on this point. Mr Glenn in fact did say that Mr Dean might have been more conscious of keeping his foreman's coat free of dust, which would not suggest to me that he would brush up against the boiler unnecessarily.
88. Similarly, Mr Dean's description of the dust, it is submitted by the defendant, is not consistent with the dust being released or given off from the lagging as he brushed past, but may be more consistent with the defendant's argument that there was ambient dust lying on top of the lagging, which he disturbed. Again, this is no more than a suggestion. I accept of course that there is likely to have been ambient dust present in the area and on the lagging. However, in light of the fact that I find that this was lagging containing asbestos and that accords with Mr Glenn's evidence in particular about its nature, it seems to me that whilst there may have been ambient dust, that dust was in fact being released or given off from the lagging.
89. Mr Glenn, as I say, accepted Mr Dean's description of the behaviour of lagging and that is consistent with the behaviour of friable asbestos-containing lagging. I have already found that that is what this lagging was.
90. There is no clear account of the extent of any damage or deterioration to the lagging, although both experts agree that if unprotected it would be likely that it would be damaged by some exposure to the elements, to being knocked against or brushed past

and potentially from the activity of birds and mice.

91. Clearly in a factory yard there would be dust accumulating on the ground. It would be disturbed when a person like Mr Dean walked through it or by a gust of wind or air flow and there was, I find, sufficient dust accumulating on Mr Dean's clothing for him to feel the need to brush it off, even in such an environment and I accept his account that there was a cloud of dust created by brushing it off. I also note the size of the boiler. I find that there would have been a significant quantity of lagging required to cover a boiler of that size.
92. In short, given the other findings I have made and having assessed Mr Dean's evidence as well as the opinion of the experts, I accept the deceased's account of the frequency and nature of his exposure and that this exposure was to dust from the lagging. His account, as I have already found, is not obviously exaggerated, albeit untested.

(v) The nature of the asbestos dust

93. I next have to consider the nature of the asbestos dust to which Mr Dean was likely to have been exposed. As is well known, there are three types of asbestos: crocidolite, which is usually described as blue asbestos; chrysotile or white asbestos; and amosite or brown asbestos. Crocidolite is recognised as being the most dangerous of the three.
94. A summary of Mr Chambers' evidence is that lagging could contain somewhere between 15% and 80% asbestos and that amosite would have been the most commonly used for lagging of this kind. However, it could contain crocidolite, one cannot tell whether or not crocidolite was present just from the colour. Mr Chambers' evidence was that if the lagging was lavender blue or present in a railway wagon then it would have been crocidolite, but the opposite, without testing, is not true.
95. Mr Glenn's evidence was that on a balance of probability there would be a 60% chance or even higher that the lagging contained amosite. He suggested that there was a 25% - 30% chance that it did not contain asbestos at all, but I have discounted that for the reasons set out above. He said that there was a 15% chance that it contained crocidolite.
96. There are two matters therefore as I find, to which that evidence is relevant in this case. First of all, on the balance of probabilities it is more likely than not that the asbestos-containing lagging, which I find to be in place and unprotected on the boiler, contained amosite rather than crocidolite. However, there was a 15% chance that it contained crocidolite.
97. The experts agree, and I accept that where there is no evidence from the defendant and no evidence of any testing, it is not possible accurately to assess precisely the extent of the deceased's exposure. On the evidence I have and on the balance of probabilities, I find that he was exposed three or four times a week to dust from asbestos-containing lagging over a period of about nine years and that exposure was such that he was aware of the presence of dust as he brushed past the boiler, he was aware there was dust collected on the ground, which he disturbed by his footfall or which was disturbed by wind, and that dust accumulated on his overalls or coat such that he had to brush or beat it off and that that action created a cloud of dust.

(vi) Foreseeability

98. This brings me on to the issue of foreseeability. The test here with regard to foreseeability is whether the defendant failed to take reasonable precautions to avoid exposing Mr Dean to quantities of asbestos dust which, given the state of knowledge a reasonable employer should have had at the material time, it ought reasonably to have foreseen would expose him to a risk of injury.
99. This test is set out in the authorities to which I have been referred and it is clearly identified as a two-stage test by Underhill LJ at paragraph 63 in the decision of *Bussey v Anglia Heating* [2018] EWCA Civ 243. I do not intend to read that passage out, but Underhill LJ sets out that the first question is whether or not the employer should have been aware that the exposure to asbestos dust at work gave rise to a significant asbestos-related injury and Underhill LJ said, “I say ‘significant’ only so as to exclude risks, which are purely fanciful. Any real risk, albeit statistically small, of a fatal illness is significant”. If the answer to the first question is that the defendant should have been aware that the exposure gave rise to such a risk, the second question is whether it took proper precautions to reduce or eliminate that risk.
100. As I have said already by reference to Dr Beckles’ report, the risk here clearly was significant by the definition I have just read out. Dr Beckles sets out at page 78, “there is no threshold dose required for mesothelioma, however the risk of mesothelioma occurring increases in proportion to the dose of asbestos received”. However, as he says, there is no minimum causative dose, which may give rise to mesothelioma.
101. An employer’s knowledge of the risk from exposure to asbestos developed over time. 1965 was a significant turning point in knowledge about mesothelioma rather than, for example, asbestosis. It was the publication of the seminal paper, *Mesothelioma of Pleura and Peritoneum following Exposure to Asbestos in the London Area* by Newhouse & Thompson in the issue of the *British Journal of Industrial Medicine*, October 1965 and a subsequent feature in *The Sunday Times* on 31 October 1965 that drew attention to the potential of even slight or transient exposures to asbestos fibres as a cause of the development of mesothelioma at a later date.
102. The development of the knowledge about the risks of exposure to asbestos can be traced through some of the decisions of the Courts as well as the proper approach to be taken when knowledge about risks is developing and/or unknown and again the decision in *Bussey* helpfully summarises a large part of that historical development.
103. It is convenient to quote from paragraph 34 of the decision in *Bussey* citing the decision in *Maguire v Harland and Wolff PLC* [2005] EWCA Civ 1 referring to the limited information before 1965 and going on to say,
- “In truth the alarm did not sound until late 1965 when it began to be appreciated that there could be no safe or permissible level of exposure, direct or indirect to asbestos dust. Therefore, the learning curve about the risks arising from familial exposure, which was relevant in that case, was fairly steep”.

104. Similarly, in *Baker v Quantum Clothing Group* [2011] UKSC 17, the Supreme Court confirmed that the standard of conduct to be expected is that of a reasonable and prudent employer at the time, but taking account of developing knowledge about the particular danger concerned, and again the quotation from that case at paragraph 38, says,
- “There are of course many first instance decisions on foreseeability of the risk of mesothelioma at different dates. Counsel have taken us through several of them, each one turns upon the circumstances of that case and the expert evidence, which was called, and it is therefore accurate that one has to consider the circumstances in each case”.
105. The duty of the employer is then also set out at paragraphs 29, 30 and 33 by reference to *Stokes v Guest, Keen & Nettlefold* [1968] 1 WLR 1776 and *Thompson v Smith’s Ship Repairers* [1984] QB 405. Again, I do not intend to set out those quotations in full for the purposes of this judgment.
106. However, in summary the overall test is still the conduct of a reasonable and prudent employer taking positive thought for the safety of his workers in the light of what he knows or ought to know, and includes a need to consider not only the recognised and general practice, but also to be alert to the changes in circumstances and the need to take appropriate precautions based on that information.
107. For the reasons I set out above I accept the deceased’s evidence that he was exposed as described to dust containing asbestos, which was probably amosite, three or four times a week for nine years for short periods of time. The dust was created when he brushed past it or disturbed it on the ground or brushed it off his clothing, I find that he would have been exposed for a matter of seconds, but that initial release or disturbance of the dust would have given rise to a considerable quantity of dust in the sense of it being visible and when brushed off his clothing creating a cloud of dust.
108. However long he was working on the compressor it would have been for somewhat longer obviously than just walking past, but I do not know exactly how long. Therefore, although not extending to more than a minute or so in settling dust, I have no direct evidence about the length of time he would have been exposed on each occasion whilst working in the area.
109. However, the evidence I do have is that the experts agree that the higher levels of exposure when the dust was raised would last for a matter of seconds. Both experts give their opinion as to the possible level of exposure in terms of numbers of fibres. They both accepted that there is no independent evidence or evidence from previous studies, which are directly analogous to this situation.
110. Mr Dean was working outside, but under a cover. The space seems to have been confined, but I have no information about the extent to which it was enclosed. It may have been open on more than one side. It may have been open only on one side.
111. By reference to Commander Harries’ 1968 paper, *Asbestos Hazards in Naval Dockyards*, Mr Chambers suggests that the closest analogy would be from Table 3K, being dust concentrations in a partially insulated boiler room taken from a Dräger

sampler for the breathing zone of men working on or climbing over partly insulated pipes. That suggests a mean of 50.8 fibres with a range of 6-144. As Mr Chambers explained a Dräger sample would be a one-off measurement rather than one taken over a period of time.

112. In the joint statement Mr Chambers says that it is his opinion that Mr Dean was likely to have been exposed to high concentrations of asbestos dust for short periods. He sets out his conclusions at pages 110 to 112 and concludes that, “the estimated asbestos dust concentrations would have been about 50 fibres/mm, albeit for those short periods”.
113. He refers to the results reported by the Harries paper, and the table is set out, beginning at page 110. I do not need to refer to it in any detail. Mr Chambers has gone through the description of the process, brushing against and disturbing the lagging to the boiler, patting down clothing and then done an analysis with the Harries paper in order to reach his conclusion, which is about 50 fibres/mm.
114. In his original letter of 11 December Mr Glenn refers to TDN13, the hygiene standard, and states that in his opinion it is unlikely that the type of exposure described by Mr Dean would have created a local concentration as high as 2 fibres/mm and it is highly unlikely that exposure for a short time would have resulted (even in an average over four hours) approaching that hygiene standard.
115. At page 200 in his report, he says that in his opinion brushing against unprotected asbestos lagging would not be likely to release sufficient dust to create concentrations as high as 2 fibres/mm in a person’s breathing zone. Moreover, whatever the concentration happens to be, it will be for a short time only and so he concludes that the average concentration over four hours would have been low in comparison to that hygiene standard.
116. In reaching a conclusion about exposure being less than 2 fibres/mm he does not indicate whether the estimates are short-lived concentrations averaged over a few seconds, minutes or hours or what literature or studies that these are based on. I also note that Mr Glenn made some points essentially of supposition about: the nature of the canopy; the state of the lagging; and the extent to which Mr Dean in fact had to brush past the boiler.
117. In his oral evidence, Mr Glenn said that if there had been as much dust as to give rise to concentrations of asbestos fibres of 50/mm he would expect there to be a large amount of visible dust. He said that he thought that a “cloud of dust” is a “difficult” term and he expressly wondered if the term had been used by the deceased by way of exaggeration in order to further the claim.
118. Mr Glenn said, “I think brushing against the lagging would probably release dust to a level of 2 fibres/mm”, he said, “I would say less, but I used two because it was the hygiene standard at the time”. He said it would be “okay” for amosite or chrysotile, but more difficult for crocidolite. In terms of justifying his own assessment of the likely concentrations he said that the Harries report might be the nearest, but in his view not close enough because it related to the refitting of ships involving a multitude of workmen working in enclosed small spaces and so he did not think it was helpful.

119. He acknowledged that he had not said that in his report and that he had made no comment in the joint statement as to why he said it was not an appropriate comparator and his approach by reference to the hygiene standard was, as he said, “to have in mind the level of dust exposure needed to reach that standard” and in his opinion Mr Dean’s exposure came “nowhere near”.
120. In making this assessment he said that he was relying on his knowledge and experience. He agreed that the exposure would be greater if Mr Dean was knocking or brushing against unprotected lagging or brushing the dust from his clothing than it would be if he was just present when there was dust. He agreed that a “cloud of dust” would amount to a substantial quantity of dust, but still expressed the opinion that dust made airborne in the type of situation described by Mr Dean would be at a very low level. He said that he did not believe that brushing against anything would create a substantial quantity of dust. He confirmed in re-examination that he selected 2 fibres/mm because of the hygiene standard level and that his view was the exposure would be below that level. He said that this 2 fibres/mm would be as Mr Dean was brushing past and the level would be “miniscule” over four hours.
121. The defendant accepts the two-stage test in *Bussey* as being correct, but argues as per its skeleton that whilst the case law has acknowledged that the hygiene standards of the day should not on their own be treated as a universal test of foreseeability in mesothelioma cases, they are clearly highly relevant to an assessment of what levels of exposure to asbestos dust were regarded at the time as being harmful.
122. The defendant cited *Williams v University of Birmingham* [2011] EWCA Civ 1242 in which Aikens LJ said,

“...a judge must determine the degree of exposure to asbestos fibres to which Mr Williams was actually subjected and whether it was *de minimis* or a material exposure...assuming the exposure was more than *de minimis* it was necessary to ask a further question. That is whether given the degree of actual exposure, it ought to have been reasonably foreseeable to the University (with the knowledge a reasonable university should have had in 1974) that as a result, Mr Williams would be likely to be exposed to the risk of personal injury in the form of contracting mesothelioma”.

The court concluded that to determine that question, the judge had to make a finding about the actual level of exposure to asbestos fibres.

123. The defendant submitted that the facts of this case are closer to the decision in *Williams* because the exposure is so low and so infrequent and outside. In fact, it was suggested that, on Mr Glenn’s evidence, the exposure would in fact be *de minimis*.
124. Of course, as I have said, the defendant does not challenge Dr Beckles’ report and accepts causation here. Although at first blush it seems difficult to reconcile a *de minimis* argument for the purposes of foreseeability where it is conceded that exposure was sufficient to cause mesothelioma, it is of course important not to conflate breach of duty and causation.

125. In *Williams* the Court decided that the deceased was exposed to asbestos fibres for between 52 and 78 hours in total over the whole course of his employment with a concentration of asbestos in the atmosphere close to or just above .1 fibres/mm, but less than .2 fibres/mm.
126. At first instance in *Bussey* the Judge concluded on the balance of probabilities that Mr Bussey was not exposed to levels of asbestos dust beyond those set out in TDN13, namely 12 fibres/mm, for a time weighted average of 10 minutes, or 2 fibres/mm for a time weighted average of four hours. Mr Bussey was exposed when cutting through cement pipes with a hacksaw.
127. In order to reach decisions about these matters, I should say first of all I preferred the expert evidence of Mr Chambers. His comparison with the Harries report was more persuasive than Mr Glenn's view which was unsupported by reference to any studies. In terms of the assessment of concentration I agree with Mr Chambers that whilst not a directly analogous comparator, the selection of Table 3K from the Harris report is probably the best available, although I accept that the ship fitting would have involved more people working in a smaller enclosed space. It seems to me therefore that there is a need to reduce that figure in terms of overall exposure.
128. However, the figure, as I say, is taken from the Dräger reading, namely a one-off figure, and there is likely to be a closer analogy, in fact, when considering the specific release of dust by brushing or knocking against the boiler, disturbing the dust on the ground and brushing the dust off Mr Dean's clothes, I find that the analogy is properly made.
129. Mr Glenn's opinion was based on his experience and expertise, which is considerable, but without reference to any literature or comparator and seems to me to be a potentially circular argument as he presented it. He gives his opinion that an employer did not need to take precautions if an exposure level was below the hygiene standard and it was not necessary in this case to take preventative measures in light of his view of the likely level of exposure and that therefore the likely level of exposure would have been below the hygiene standard.
130. Mr Chambers argues that the defendant would still have had a duty to minimise or eliminate asbestos exposures, even where those exposure levels were below the TDN13 threshold. Further that the applicable threshold should be the hygiene standard for crocidolite rather than amosite or chrysotile. This is on the basis that unless and until the defendant could have been certain that the lagging on the boiler did not contain crocidolite, it should have assumed that it did for the purposes of making any comparison against TDN13.
131. It is submitted on behalf of the defendant that both of these arguments are misconceived because the level of airborne asbestos to which the deceased was exposed was so low and so transient that it would not have been associated with a foreseeable risk of asbestos-related harm and thus there was no duty on the defendant to minimise or eliminate it. Further, there was no reason to believe that the exposed material, assuming it was unprotected asbestos-containing lagging contained crocidolite, let alone to assume that it contained crocidolite unless proved to the contrary.

132. The significant difficulty I find with Mr Glenn's opinion and the defendant's case is that there is no evidence that the defendant considered the risk at all, whether by reference to any standard or threshold or otherwise. In the circumstances it is not clear on what basis I can accept Mr Glenn's view. If there was no assessment of the risk how could the defendant have formed the view that no precautions were necessary?
133. As set out in the claimant's skeleton all that the defendant could have concluded, in common with the defendant in *Bussey*, was that the deceased was regularly exposed to quantities of asbestos, but they had no means of knowing in the absence of any measurement whether the extent of the deceased's exposure was liable to cause mesothelioma.
134. Even if the defendant had measured the exposure against TDN13 (and on Mr Chambers' evidence the exposure would have been in excess of that, albeit for very short periods), the decision of the Court of Appeal in *Bussey*, considering the exposure period from 1965 to 1968 was that it would not determine liability since that standard simply sets out the exposure levels, which after May 1970 would trigger a prosecution by the Factory Inspectorate.
135. The claimant submits on the evidence before me it is clear that the defendant should have been, if indeed it was not, aware of a risk of fatal injury and it did not satisfy itself that the deceased's exposure was below any sort of safe level.
136. Of course I note that the *Williams* decision concerned exposure in 1974, that is after the publication of TDN13 and whilst one can see the attraction in finding that a later standard at a time when the risk is known to be greater even at low levels of exposure would apply at an earlier date, the fact is that the defendant here could have had no knowledge of that later standard even if it had measured the exposure. It cannot therefore, I find, provide any useful guidance as to foreseeability at that earlier date or as to what risk the defendant should have identified in this case when Mr Dean was being exposed.
137. In any event, I reject Mr Glenn's opinion that the exposure would have been so low at the points in time when Mr Dean's activities were causing the dust to be visible in the air that a reasonable employer would have assessed the risk without measurement as not being sufficient to require it to take precautions.
138. Moreover, on the basis of the authorities cited and the evidence from Mr Glenn that there was a 15% chance that the lagging contained crocidolite and from Mr Chambers that it might have contained crocidolite, that should have caused the defendant to proceed as if it did contain crocidolite. On this point, Mr Glenn would agree that even at the relevant time, exposure to unprotected lagging containing crocidolite would have been an "outrageous" situation.
139. Doing the best that I can on the evidence therefore, I conclude that the concentrations were significantly above 2 fibres/mm when the dust was disturbed and probably in the region of 50 fibres/mm as per Mr Chambers. I accept that when Mr Dean was in the area, but not carrying out those activities such as would disturb the dust, that levels

probably did fall over a matter of minutes somewhere closer to Mr Glenn's figure, but certainly not to a level, which could be described as *de minimis*.

(vii) Level of exposure

140. Although it is necessary for me to make an attempt to assess the level of exposure to asbestos in order to apply the correct test of foreseeability in light of known risks, any attempt at any precise calculation was described in *Bussey* at paragraph 62 as unsound. Nevertheless, such a back calculation or back "guess-timation" is pursued by the defendant here in order to establish its case that Mr Dean's exposure was below the hygiene standard and therefore the defendant did not need to take any precautions. I reject that approach and again refer to the decision in *Bussey*, in particular paragraphs 59 and 60 where the argument is addressed, and as per Jackson LJ,

"It is clear (from paragraphs 40 to 45) that the judge treated the level specified in TDN13 as determinative of the present case. He considered that the Court of Appeal's decision in *Williams* compelled that result. Whilst I understand why the judge in this case (and judges in some other first instance decisions) took that view, I do not regard it as correct. TDN13 sets out the exposure levels which, after May 1970 would trigger a prosecution by the Factory Inspectorate. That is a relevant consideration, it is not determinate of every case. If the judge had not felt so constrained he would have looked at the issues of foreseeability and breach more broadly. Anglia called no factual evidence about what it knew or considered in the late 1960s".

141. Thus, the Court of Appeal concluded that the matter must be remitted back for a further decision.
142. Further, as was set out at paragraph 46 of *Bussey*, Jackson LJ went on to say that by referring to TDN13 as "the best guide as to what were acceptable and unacceptable levels of exposure in 1974", Aikens LJ in *Williams* was not there formulating a principle of law. He was setting out a mixed finding of fact and law. That finding was based on the expert evidence adduced in the case before him".
143. He went on,

"In my view TDN13 does not establish a "bright line" to be applied in all cases arising out of exposure in the period 1970 to 1976. Still less is it a bright line to be applied to asbestos exposure in a different period, whether before or after 1970 to 1974. At this point in the analysis I regard it as relevant that neither *Jeromson* nor *Maguire* were cited in *Williams*. If Aikens LJ had those two decisions in mind, I do not think that he would have suggested (if indeed he did suggest) that TDN13 was a general yardstick for determining the foreseeability issue. A more nuanced approach is required than that. It is necessary to look at the information, which a reasonable employer in the defendant's position at the relevant time should have acquired and then to determine what risks such an employer should have foreseen".

144. Having considered these principles and the matters I have already set out in the

circumstances of this case I find that a reasonable employer in the position of the defendant would have had knowledge of the risk of short or transient exposure to asbestos from about 1965 and that this defendant knew or ought to have known that Mr Dean's exposure to asbestos dust at work at the levels I have found gave rise to a significant risk of asbestos-related injury.

(viii) Precautions

145. The second part of the test in relation to the defendant's alleged breach of duty relates to the precautions, which it could have taken. The evidence on this issue is clear and straightforward, had the boiler with its insulation been covered in a hard substance such as sheet metal or the sort of asbestos-containing cement, BD2, described by Mr Chambers, then the deceased's exposure to asbestos would have been avoided completely.
146. The experts agreed that for reasons of efficiency it should have been covered, if the lagging contained crocidolite, then Mr Glenn agreed that it would be outrageous for it not to have been covered. For the reasons I have already identified I reject the defendant's submission that the exposure here was so low that the defendant did not have to take any action and I reject the contention that there is not a hierarchy of steps, which the defendant should have followed.
147. In the circumstances the defendant should have taken steps in light of the risk of which it should have been aware and I find that it could have taken the simple and obvious step of covering the boiler in a protective material and the deceased's exposure would have been eliminated. There is of course no evidence that the defendant did take any precautions and the burden of pleading reasonable steps would have been on it in any event.

(viii) Second limb of s.63(1) Factories Act 1961

148. As I have already set out, it is also the claimant's case that the facts establish a breach of the second limb of section 63(1) of the Factories Act in relation to the measures to be taken against "any substantial quantity of dust of any kind". Where injury is caused as a result of dust given off in substantial quantity it is not necessary to establish the defendant had foresight of harm. The point at which the dust must be substantial is when it is given off, not when it is inhaled.
149. It is submitted that there has been no determination in case law on what constitutes a "substantial quantity" of dust. That seems to be right, and in those circumstances I was referred to the decision in *Prater v British Motor Holdings Ltd* [2016] 6 WLUK 193, where the judge found that the dust that was given off in mixing and welding processes in a car factory was substantial, where it was "in such quantities as to be visible in the air, including as a haze or a smog, and to fall on the skin and down the neck and onto the clothing in such quantities as to require shaking to remove it and for it to be necessary to be brushed from the work benches and from the floor".
150. The claimant therefore submits that in this case where the deceased described quantities of dust that were visible in the air and a cloud of dust when it was knocked from his

clothing, that such dust when given off is properly described as “substantial”. The claimant argues therefore that if it is accepted that there was a substantial quantity of dust given off and the defendant does not plead or prove any practicable measures were taken to protect persons employed against inhalation of that dust, then there is also a clear breach of duty under the second limb of s.63(1).

151. Of course, I have already decided that the defendant is liable under the first limb and therefore I do not need to consider this second limb. However, for the sake of completeness I have reached the conclusion that the cloud of dust described by the deceased does not equate to a “substantial quantity” of dust within the meaning of the statutory provision. I make that finding because this was a transient cloud of dust and not a quantity of dust, which hung in the air or which was such as to create a smog or haze of the kind described in the case of *Prater* or in other similar decisions.

Conclusion

152. My conclusion therefore is that I find that Mr Dean was exposed to a foreseeable risk of asbestos-related injury and the defendant took no precaution to reduce or eliminate that risk, which steps would have been simple, and in the circumstances the claimant’s claim succeeds in the first limb of section 63 of the Factories Act and in negligence.

End of Judgment

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This transcript has been approved by the judge.

