

Neutral Citation Number: [2015] EWCA Civ 176

Case No: A3/2013/1910

**IN THE COURT OF APPEAL (CIVIL DIVISION)**  
**ON APPEAL FROM THE HIGH COURT OF JUSTICE,**  
**COMMERCIAL COURT**  
**HIS HONOUR JUDGE MACKIE QC**  
**[2013] EWHC 1568 (Comm)**

Royal Courts of Justice  
Strand, London, WC2A 2LL

Date: 05/03/2015

Before :

**LADY JUSTICE GLOSTER**  
**LORD JUSTICE CHRISTOPHER CLARKE**  
and  
**LORD JUSTICE VOS**

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Between :

Aspen Insurance UK Limited  
- and -  
Adana Construction Limited

**Appellant**

**Respondent**

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Neil Calver QC and Gerard Rothschild (instructed by Clyde & Co LLP) for the **Appellant**  
Colin Wynter QC and Alison Padfield (instructed by CMS Cameron McKenna LLP) for the  
**Respondent**

Hearing dates: 22<sup>nd</sup> January 2015  
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**Judgment**

## Lord Justice Christopher Clarke:

1. In July 2009 construction works were in progress at King’s Dock Mill in Liverpool. Bowmer & Kirkland Ltd (“B & K”) were the main contractors. Bingham Davis Limited (“BD”) were the structural design engineers. Adana Construction Limited (“Adana”), the respondent, was a construction sub-contractor. It had agreed to be responsible for the “*Supply of all necessary labour plant and materials to carry out the Supply, Delivery and Installation of the Insitu Concrete and Drainage Works*”. BD were the designers of those works, which included the casting and fixing in place of a reinforced concrete pile cap which was to form a crane base. After the pile cap/crane base had been created, Adana left the site, its work being over by mid December 2008. A tower crane was erected on the crane base. In about April 2009 the first crane erected on the base was removed and a heavier crane was erected on it.

### *The accident*

2. On 6 July 2009 this crane collapsed, falling backwards. The crane driver was very gravely injured. A number of neighbouring properties were significantly damaged. The crane, itself, was seriously damaged. Several claims were made. The driver brought claims in the High Court against B & K and BD; and Adana was joined by those two under CPR Part 20. Another 39 claimants issued proceedings against B & K, BD and Adana in the High Court either for property damage or personal injury. A number of other claimants issued proceedings against those three in the County Court, making claims including in respect of Post Traumatic Stress Disorder (“PTSD”) or loss of contents. Other claims have been made of which the most significant is that of Chandlers Wharf Property Management Ltd, which claimed in Pre-action Protocol letters to B & K and BD some £ 8.4 million for property damage to their property and the increased costs of working as a result of the collapse of the crane. That claim has been partially settled: see para 22 below. B & K have settled a claim (put at c £ 1.75m) for damage to the crane and might seek contribution from BD and Adana.

### *The appeal*

3. Adana was insured by Aspen Insurance UK Limited (“Aspen”), the appellant, under a Miles Smith Building Services Combined Contractors’ Liability Policy for the period from 2 June 2009 to 1 June 2010. Aspen sought a declaration of non-liability under that policy. HH Judge Mackie QC declined to make such a declaration. From this decision Aspen now appeals. Judge Mackie’s decision is, we were told, the first reported High Court decision on this particular wording. In order to consider the questions of interpretation of the policy that arise it is necessary to examine the exact nature of what Adana did.

### *What Adana did*

4. There were *in situ* when Adana began their work four reinforced piles forming the corners of a square. These had been constructed by another company called Van Elle Ltd. There had been embedded within each pile 6 x 20 mm (in diameter) high tensile reinforcing bars (“rebars”) arranged in a circle around the interior of the pile. The piles also had cast in their centre a single 32 mm rebar. The 20 mm and 32 mm rebars

protruded above the top of the piles. These rebars appear on a diagram in the Appendix to this judgment<sup>1</sup>.

5. The four corners of the base of the crane were to rest on the four piles at the corners of the square. For this purpose it was necessary to cut the 32 mm rebar protruding above the centre of the top of the pile, in order to accommodate the four foundation anchors of the crane. A concrete plinth was fixed on the top of each pile. On top of that there was fixed a metal strut (the “foundation anchor”), which extended upwards. A system of wire reinforcement was then superimposed; shuttering was erected; and concrete was poured in. When the concrete had set the shuttering was removed. As a result a concrete block (“the block”) was created which rested on the piles. The concrete incorporated (i) the wire reinforcement; (ii) the foundation anchors; and (iii) the 20 mm rebars insofar as they stood proud of the piles. These rebars had, themselves, to be bent back to ensure that they did not obstruct the foundation anchors.
6. The foundation anchors protruded above the top of the pile cap so as to be able to accommodate the four hollow legs of the first section of the crane which would be lowered down on top of them and secured by a bolt passing through each leg and anchor.
7. There was a further important feature. The design called for the insertion into the piles (whose 32 mm rebar had been cut off and whose 6 x 20 mm rebars had been bent back) of four 20 mm rebars (“the dowels”). Before the concrete was to be poured in Adana was to drill four holes into each pile. A dowel was to be placed in each hole to a depth of 400 mm and sufficient epoxy resin was to be placed in the hole so that, when finally placed to the depth of the hole, the dowel would be bonded to the concrete over the full surface area of the hole. The purpose of the dowels was to provide a similar tensile capacity to that of the 32 mm bar which they replaced. Their function was to provide strength, not adhesion. The dowels were to protrude upwards from the top of the pile into the pile cap/crane base for 1 metre. The effect of this was that, when the concrete was poured in, there was included within the cap/base 1 metre of each of the dowels.
8. The purpose of the crane base was to form a base upon which the crane would rest. It was not intended itself to sustain the loads being generated by the crane but to transfer it into the piles. Such loads are both compressive and tensile. Compression is transferred by downward pressure. Tension i.e. the force that tries to pull something apart, as a result of which one side of the crane may end up being pulled upwards with the other side being pushed downwards (as happened), is resisted by, *inter alia*, the connection of the pile to the crane base. In the present case the crane base was linked to the piles by the dowels.
9. There was an allegation in the action brought by the crane driver that the dowels were not installed with sufficient or, in some cases, any epoxy resin. The position in relation to the bonding material is obscure. As the judge put it Aspen “*has not begun to explore what this was or how it might have failed its intended function*”. In those

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<sup>1</sup> The diagram refers to 16 mm rebars but we were told that was an error.

circumstances I say no more about it. In any event I agree with the judge that it does not form any part of the crane base.

*What happened*

10. When the crane collapsed the crane base/pile cap came away from the piles in one piece. It did not fracture. This shows that the base had successfully transmitted the vertical load imposed by the crane to the piles. None of the dowels (4 per pile) were fractured. Instead they were pulled intact out of their respective piles and remained attached to the base.
11. After the collapse of the crane the Health and Safety Executive (“HSE”) prosecuted B & K and BD (but not Adana) and reports were prepared by various experts. As the judge recorded [9]:

*“These experts all reached the same conclusion that the initial failure was not due to a failure of the crane, but a failure of the connections between the crane base and the piles. None of the experts found fault in the design or construction of the piles, and all agreed that the loads imposed on the connections were higher than those which had been considered in the design. All the experts except that for Bingham Davis agreed that under maximum load the pile connection would have failed as a result of overloading regardless of any workmanship issues on the part of Adana.”*

12. According to the evidence given by Dr Roberts, instructed by BD, in the HSE prosecution (a copy of whose report was before the judge, although he did not give oral evidence) none of the dowels were found to have been fixed into the piles to the correct depth of 400mm. Their actual depths varied between 70 and 360 mm with an average of 219 mm i.e. about 55% of the depth required by the designer’s specification. The effect of this was to reduce the so-called “pull out” value of a resin anchor by 55%. If the anchor, consisting in effect of the dowel protruding into and fixed within the pile goes less further down than specified, the resistance to its being pulled out is reduced.
13. As the judge also recorded [12] there was further agreement between the experts:

*“All the experts, both prosecution and defence, at the HSE prosecution agreed that the tension load applied to the connection between the piles and the crane base was significantly in excess of the 300kN for which it was designed. The engineering experts agree that the failure occurred as a result of the load being applied to the connection between the piles and the crane base being greater than the ability of the connection to resist that load. Whether there was a failure of the design by Bingham Davis, or a failure to follow that design, or a failure to follow the specification, the engineering experts are both of the opinion that the connections between the 16 dowel bars and the piles did not, or were unable to, transmit the imposed tensile loads from the crane base to the piles. The dowel bars appear to have been pulled intact out of the pile as a result of the holes in the piles having been neither deep nor wide enough. However the dowels may, under the imposed load, have failed, even if embedded more deeply.”*

14. As that passage indicates, and as the joint report of the experts who appeared before the judge confirmed, the failure occurred for the reason stated (“*the load being applied to the connection between the piles and the crane base being greater than the ability of the connection to resist that load*”) and that was either because the design was faulty or because Adana failed to follow that design or failed to follow the specification.
15. The joint report of the experts before the judge went somewhat further and opined that the purpose of the dowels was to transmit tensile load from pile cap to pile and that this purpose was not achieved because the dowels pulled out of the top of the pile as a result of being subjected to loads in excess of the ultimate design load of the connection.

*“If the crane was fully loaded the tension could have been at least 3.7 times (orthogonal analysis) and up to 6 times (CIRIA analysis) larger than the connection was designed to resist and as a result the crane overturned. Under these loads the connection would have failed regardless of any workmanship issues”.*

If the reason for the failure was the design that was not something for which Adana was responsible.

*The terms of the policy*

16. The policy, which included Employer’s Liability, Public Liability, Product Liability, and Pollution Liability cover, included the following provisions:

*“It is agreed that this Certificate does not indemnify the Assured in respect of loss of or damage to any superstructure arising from the failure of the Assured’s foundation works to perform their intended function.*

[the foundation clause]

**Section B: Public Liability**

*Underwriters will indemnify the Insured against all sums which the Insured becomes legally liable to pay for damages and claimants' costs and expenses arising out of*

*i) accidental Bodily Injury to any person*

*ii) accidental loss of or damage to tangible property...happening during the Period of Insurance in connection with the Business.*

*Underwriters will also pay Defence Costs in addition to the Limit of Indemnity.*

**Additional Exclusions to Section B**

*Underwriters will not indemnify the Insured against liability arising:–*

*5. out of any claim for making good faulty or inefficient workmanship, materials or design but, nevertheless, Underwriters will provide indemnity in respect of liability arising out of or in connection with accidental Bodily Injury or accidental loss of or damage to tangible property resulting from faulty or inefficient workmanship, materials or design....*

*13. caused by any Product*

**Section C: Product Liability**

*Underwriters will indemnify the Insured against all sums which the Insured becomes legally liable to pay for damages and claimants' costs and expenses arising out of*

*i) accidental Bodily Injury to any person*

*ii) accidental loss of or damage to tangible property happening*

*during the Period of Insurance in connection with the Business and caused by any Product.*

*Underwriters will also pay Defence Costs in addition to the Limit of Indemnity.*

**Additional Exclusions to Section C**

*Underwriters will not indemnify the Insured against liability:—...*

*2. arising in connection with the failure of any Product to fulfil its intended function.*

**DEFINITIONS**

*3. "Defence Costs" means all costs and fees and expenses incurred with Underwriters' written consent in the defence or settlement of any claim including legal expenses:—...*

*8. "Product" means any product or goods manufactured, constructed, installed, altered, repaired, serviced, processed, treated, sold, leased, supplied or distributed by or on behalf of the Insured from or within Great Britain ... (including any advice, design, consultancy, plan, specification, formulae, labelling, packing or instructions for use given in connection therewith) but only after such item has left the Insured's care, custody or control."*

In citing these provisions I have changed the sequence in which they appear in order to match the exceptions to the clauses to which they relate.

17. Three features of the policy are apparent. First, it provides cover for both Public Liability and Product Liability. Unsurprisingly it precludes recovery for the same loss under both heads. Liability caused by any Product is excluded from Public Liability cover and included in Product Liability cover.
18. Aspen at one stage alleged that there was a market understanding, which should inform the interpretation of the policy, that, where there was both Public and Product Liability cover, cover under the Public Liability section ceased in respect of events occurring following the handover by the relevant contractor of the completed works. This market understanding, inadmissible as evidence, turned out to be no more than the views of a number of individuals as to how, as a matter of practical reality, claims by insureds after handover would most commonly be made. Thus, since only latently defective workmanship will not already have revealed itself by the time of handover, any liability arising after handover will usually be for Product Liability. It also transpired that in another case Aspen had themselves agreed to indemnify an insured under the Public Liability section, despite handover of the works, in respect of a

defective installation by the insured's workmen of a valve, as a result of which there had been flood damage.

19. Second, Public Liability cover is expressed in very wide terms so as to apply to liability for accidental bodily injury and accidental loss of or damage to tangible property happening in connection with the Business. These terms were intended to cover liability for faulty or inefficient workmanship, materials or design other than liability for making those defects good.
20. Less clear is the interrelationship between exclusions 5 and 13 to Section B. If the insured supplies a Product which causes it to be liable, and the causative defect in the Product is the result of faulty workmanship on its part, is the insurer liable? Aspen contends that it is not: if what has been supplied is a Product and that Product causes Adana to be liable, exclusion 13 applies. If there is no Product which causes liability but liability results from faulty workmanship, then there is cover. Adana contends that, if there is a Product and it is defective on account of poor workmanship, the exception to the exclusion in exclusion 5 writes back in what exclusion 13 may *prima facie* have removed.
21. Third, the cover provided by the Product Liability section is limited. The liability must be caused by the Product but must not arise in connection with the failure of any Product to fulfil its intended function. Whilst examples can be found of where liability is of that nature much liability from defective products must result in circumstances where the product does not fulfil its intended function i.e. do what it was intended to do.

*Where have the claims got to?*

22. No court has made any ruling as to the liability of Adana or as to what caused it. In respect of the Chandlers Wharf claim B & K, BD, and Adana have reached an agreement with the claimants in that action that they do not require them to prove liability against any of them in relation to the collapse of the crane, and that the only remaining matters are causation, quantum of loss, and costs. Adana had admitted no liability; and Aspen does not admit that Adana had any either.
23. What Aspen says is that, on the assumption that Adana was under any liability to anyone, that could only be on the basis that a Product, namely the crane base, caused it to be so liable; and that, as a result there can be no liability on the part of Aspen under the Public Liability section of the policy because of the exclusion for liability "*caused by any Product*". There can, also be no liability under the Product Liability section because, if the Product was the cause of Adana's liability then any such liability arose in connection with the failure of the Product to fulfil its intended function. In addition (or in the alternative), each of the constituent elements of the crane base were Products too; and they failed to fulfil their functions as well.
24. The judge was sceptical as to the appropriateness of making any negative declaration in advance of any trial of liability or statement of assumed facts. But, presented with a trial to conduct for which time had been allocated and in relation to which expense had been incurred, he agreed to proceed with the hearing in the hope that it might serve a useful purpose. I share that scepticism for two reasons.

25. First, there is good reason to suppose from the joint report of the experts that the proximate cause of the collapse of the crane was that the design of the foundations was such that the connection between the crane and the piles was by a large margin incapable of transferring the tensile forces in such a way as would prevent its collapse; and that the crane would have collapsed even if the holes drilled in the dowels were as wide and as deep as they should have been. In those circumstances there is something artificial in making a declaration on the basis of an assumption of liability which may well be wrong. Second, any assumptions of fact may turn out to be misplaced.
26. In interpreting the policy in its context the judge observed that the policy was in a form proposed by Aspen and described as covering the full range of liabilities that a building contractor would face. That was not, in fact, wholly accurate. The policy was put forward by Miles Smith, Adana's Lloyd's registered broker. The judge also held that the insured under such a policy would typically be, as was Adana, a medium sized private family company. There was no specific evidence to that effect but the level of cover (£ 5 million any one occurrence for the Public Liability section and £ 5 million in all in the period of insurance for the Product Liability section) is apt for a medium sized business. The parties, the judge held, would expect there to be cover where the insured incurred liability for defective work and also where it provided a defective product, subject to the wording.

*The concrete base*

*What the judge found*

27. The judge held that the concrete base was not a Product within the definition. His starting point was that the contract under which it was made was one for work and materials, not the supply of a product. The process of creating the base did not start until holes had been drilled into the piles below and dowels fixed into those holes secured by resin or whatever the bonding actually was. (There is some reason to believe it may have been a cement-based grout). Concrete was poured in as a result of which the base came into existence as "*a lump of concrete*". A lump of concrete created in this way, was not, he held, a Product except in the most literal sense, even bearing in mind that the Court was concerned with the policy definitions and not simply the conventional meaning of the word. But such a meaning had a role because the definition of Product started with the words "*any product or goods*".
28. The concrete base was, he held, not a product with a small "p". It was not one of the Adana range of products; you could not buy it; it was created at the customer's premises and not at a factory. A customer would see the activity of creating the base as part of the work on site and not as a product like a boiler to be ordered and sent to the scene.
29. The judge observed that the experts drew a distinction in their joint report between the pile cap/crane base, the connection and the piles and concluded that these were three different things not one Product and that none of them individually or together was a Product. I assume that by "*the connection*" the judge meant the dowels.



*Aspen's submissions*

30. Aspen submits that the judge was in error in substituting what he took to be the conventional meaning of product for the very wide definition of Product contained in the policy. The Product that Adana made was the concrete base. This was a structural link between the foundation anchors of the crane and the four piles, whose function was to transmit the tensile load in such a way as would ensure that the crane stayed upright. This it failed to do.
31. The reasoning provided by the judge is, Aspen submits, unsatisfactory. The concrete base was not just “*a lump of concrete*”. It was the product of skilled workmanship which needed to ensure the correct placement of each of the anchors so as to align them with the bottom of the crane. (This is correct). But even if it was just a lump of concrete, it was something constructed or installed by Adana. Nothing in the definition requires a Product to be part of an Adana range. Nor does it have to be bought by the customer. It can be manufactured, constructed or installed - as it was. It does not have to be sent to the site as opposed to created on it.
32. There is some force in these criticisms. The characteristics whose absence is treated as significant in the previous paragraphs (part of a range/ buyable separately/created offsite) are indicia of a product; but the definition of Product does not provide that, absent one or more of them, an item cannot be a Product. Nor is the fact that the contract is one for work and materials determinative since Products may be supplied or installed under such a contract.

*The constituents of the base*

*What the judge found*

33. The judge held that the “*lump of concrete*” had no component parts or items integral to it like the gearbox of a car. The dowels were “*perhaps*” component parts of *the piles* once placed and secured within them, but not part of a wider product. As products on their own they were not Adana’s. The resin or bonding was not even in a broad sense part of the base. [40]
34. I have difficulty with this passage. The dowels were placed first into the piles. But they were then incorporated into the base when the concreting took place. Indeed more of the dowels was in the base (1 metre) than in the piles (supposedly 400 cm but in fact markedly less). If the dowels were (perhaps) part of the piles by reason of being drilled into them and then bonded by some form of binding, it would seem to me that they equally became part of the base by being enveloped by the concrete that came to form it. Consistently with that they came out from the piles when the collapse occurred and remained within the concrete<sup>2</sup>. Whether they were part of the piles or the base does not seem to me to depend on where they were first installed.

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<sup>2</sup> They can be seen on the underneath of the base in a photograph of a portion of the base, which was cut into four after the collapse, being lifted up after the event.

*Discussion*

*The concrete base*

35. I consider first whether the concrete base as a whole, including the dowels within it was a Product. In my view it was not for the following reasons.
36. The structure of the definition is to provide that Product means “*any product or goods*” (undefined) followed by past participles relating to the manner in which the insured came to provide it (“*manufactured, constructed, installed, altered, repaired, processed,*”) and then to the transaction by which it came to leave their care, custody or control (“*sold, leased, supplied or distributed*”). In order to be a Product the item in question must, therefore, have been provided by, and have left the insured’s control in, one or other of the wide range of means specified. But it does not necessarily follow that an item which was so produced, or which left the insured’s control in one of the specified ways is, on that account alone, a Product.
37. A product (with a small “p”) can be given a very wide meaning. It could mean anything which is the result of any process of manufacture or construction. In that case it would cover the construction of a building, as Mr Calver (as I understood him) said that it did. On that footing, if the insured builds a house and, because of the faulty workmanship of his employee part of the roof falls off, there is no Public Liability cover, although there might be Product Liability cover, unless the house was still in the insured’s occupation or control, although that too might well be excluded under the Product Liability exception. If part of the roof falls off when the insured is carrying out snagging work on the ground floor there is, if Aspen is right, no insurance under either section.
38. Whilst a meaning which had the result that a house or a roof was a Product is a possible one, it does not seem to me that the parties to an insurance of this kind should be taken to have intended that result. In order for there to be exclusion from Public Liability cover there needs to be something causative of the insured’s liability which would reasonably be regarded by someone with the background knowledge of these parties as a product in the conventional or natural sense of the word, since in defining “*Product*” as “*any product or goods*” they adopted that sense. A house or a roof does not fall into that category.
39. The context in which the definition appears is that of a building services liability policy which was intended to cover liability for faulty workmanship, materials or design (other than making good). I accept that there may be a potential overlap between the two - if a Product was defective on account of the poor workmanship of the insured. (It is not necessary in the present case to decide whether the Product exclusion would then deny cover, although I incline to the view that it would). In the context of a policy of this nature, the parties must, as it seems to me, be taken to have intended that there would be a wide range of circumstances in which liability for negligent workmanship – one of the most common grounds of liability of building contractors - as well as faulty materials and design would arise.
40. The combination of workmanship, materials and design in the construction trade usually results in the production of something. If, whenever it does, there is a Product, whose failure or inadequacy, if it gives rise to liability to third parties, is excluded

from Public Liability cover, the insurance expressly provided by the exception to exclusion 5 is very much reduced. Such an interpretation would also appear to render the foundation clause otiose. A construction of the policy which makes a clear distinction between (i) workmanship; (ii) materials; (iii) design; (iv) Products/products, with substantial cover being given in respect of (i) – (iii), rather than having (i) – (iii) largely overtaken by (iv) is preferable. Indeed, on Aspen’s approach, it would be difficult to discern how there would ever be cover for design liability, since a design is something that in a loose sense is a product, and could certainly be said to be supplied.

41. Mr Calver was somewhat hard pressed to give examples of where, on Aspen’s construction, there would be liability under the Public Liability section. Examples considered in argument were earthworks, clearance and drainage work or the use of a material which corrodes and damages other parts of the works. He also referred us, by way of example, to the recent case of *Northumbrian Water v Sir Robert McAlpine Ltd* [2014] EWCA Civ 685 where the (unsuccessful) claim was that the piling contractors had failed to identify an underground sewer as a result of which concrete had escaped into the claimant’s sewer and caused a partial blockage. But this is still a very limited class.
42. The meaning of “*a product*” may elude precise definition, depending, as it does, on whether the item in question is what you would really and naturally describe as a product. Without attempting a precise definition, I would regard a hallmark of a product, in this context, as being that it was something which, at least originally, was a tangible and moveable item which can be transferred from one person to another; and not something which only came into existence to form part of the land on which it was created. I appreciate that this analysis could be said to introduce indicia which the definition does not contain and, thus, open to an objection similar to that which I expressed in para 32 above. It is, however, in my view, a more reliable guide to the correct answer to the basic question as to the meaning in this context of a product.
43. I, also, bear in mind in reaching this conclusion that the clause in question is an exceptions clause, which supports a narrow rather than a broad interpretation. I recognise that that which is excluded from Public Liability (viz liability caused by any Product) is then included in Product Liability. I do not, however, regard that as eliminating the significance of the clause being an exclusion clause, particularly since Product Liability is, itself, subject to a very significant exception.
44. Approaching the matter in this light, it seems to me that the judge was right to hold that the concrete base was not a Product. Looking at the matter in the round Adana is not reasonably to be regarded as having constructed a product but as having carried out concreting works for the purpose of securing a foundation for the crane on and in the site. The fact that the works create something does not mean that everything that is created is to be regarded as a Product for the purpose of the clause. I note that, for the purposes of their argument on the exception to Product Liability cover, Aspen submits that the Product is “*the structural connection itself between the piles and the crane*”. It does not seem to me that “*Product*” was intended to cover “*a structural connection*” of this type.

*The constituents of the base*

45. That leaves for consideration the individual constituents of the base. The cement, wire reinforcement, and rebars can be ignored for present purposes because, even if they were Products, nothing is shown to have been wrong with them and they cannot in themselves be the basis of any liability. The important items are the dowels.
46. In my view, contrary to that of the judge, the dowels were Products. As I have said, the judge held that they were perhaps component parts of the piles, once placed and secured within them, but were not part of a wider product and as Products on their own they were not Adana's. It is not clear to me what he meant by the last finding. Whoever owned them they were, at the lowest, supplied by Adana and installed by them in the piles and became, in my view, a component part of the base. If any liability of Adana was caused by a defect in the dowels, there would be exclusion from Public Liability and inclusion in Product Liability cover subject to the Product Liability exception. The incorporation of the dowels into the base would not mean that there could be no Product Liability in respect of the dowels, even if the base, including the dowels, was not to be regarded as a Product. If, contrary to my view, the dowels formed no part of the base, there could still be liability on the part of the insurers if Adana's liability could properly be regarded as caused by the dowels.
47. Herein, however, lies Aspen's difficulty. The dowels neither broke nor fractured but were pulled out intact. According to the evidence of the experts the dowels "*in the sense that they neither broke or fractured cannot be said to have failed*". It is not apparent to me that they failed to do what dowels of their type were supposed to do, namely to form the type of reinforcement to be expected of dowels of their size and character. Leaving aside design defects, what went wrong was that the holes drilled into the piles were either too short, or perhaps not wide enough. If so, Adana, if it be responsible, either failed to follow the design, or failed to follow the specification. The fault was a fault in the method of installation. If Adana was liable, its liability would not have been caused by the dowels, but by its faulty workmanship in not installing them properly.
48. I have not forgotten that the definition of Product includes a product installed by Adana. But that does not mean that Product Liability cover extends to defective installation. The two are different. If there is something wrong with the Product, it is covered by the Product Liability section. If the Product is fine but installed in the piles in the wrong way, there is no cover for Product Liability but there is for bad workmanship under the Public Liability section.
49. Aspen seeks to get round this by saying that the function of the dowels was to transmit the tensile forces between the pile cap and the piles so as to prevent collapse; that the dowels could not do that because of the inadequate depth of the holes in the piles into which they were placed; such that the Product *as installed* failed. Therefore any liability was caused by the Product. That, in my view, is to graft on to the definition of Product the installation thereof into the piles, which is a separate and distinct matter, at any rate in a policy which provides public liability cover for faulty workmanship but not for a faulty product and in which the installation consists of drilling holes into the piles, which are not Adana's product. The insufficiently wide and deep holes in the piles can, scarcely, themselves be a product and the size of the hole in the pile is no part of the function of any Adana product.

50. Lastly Mr Calver submitted that it was the structural connection of the whole Product which failed and caused the collapse. If the “whole Product” means the dowels, the position remains as stated in the previous paragraph. If the “whole Product” is the cement base, including the dowels, the position is no different. The connection of the cement base to the piles was defective because the part of it which consisted of the dowels was wrongly installed into the piles.

*Failure to fulfil intended function*

51. In those circumstances it is not necessary to determine whether any assumed liability arose in connection with the failure of any Product to fulfil its intended purpose.
52. The judge did not consider this question and it is not without difficulty. One purpose of the foundation works was so to transfer the tensile load that the crane did not topple over. Assume, for the moment, that if the BD design had been followed, this purpose would have been achieved. The load bearing structure as a whole (including the piles themselves, tension in which is resisted, ultimately, by friction between the perimeter of the pile and the ground and, within the pile itself, by the steel reinforcement) would then have performed its intended function. This will have been the result of each relevant item in the design meeting the design requirements. These items include the concrete base, the dowels, the installation of the dowels in the piles, and the resin.
53. If, instead, the crane collapses the whole works, i.e. the combination of all these items, including the piles, will have failed in its purpose. It does not, however, follow that each individual component of the works, or any particular combination of components less than the whole, will have failed its intended purpose.
54. Adana submits that the “*intended function*” of each relevant item can only have been to perform to the requirements of the design referable to that item. The failure of the load bearing structure as a whole does not justify the attribution of failure across the board to every item. Failure must be individually attributed (or not) to each one.
55. As to the dowels themselves, it is not apparent to me that they failed to fulfil their own intended function. They were part of the arrangements whereby the tensile forces were intended to be transferred. But they neither broke nor fractured. What appears to have happened is that the holes into which they were placed were too shallow and too narrow. As a result the security of the fix of the dowels within the piles will have been diminished because within the drilled holes the surface area of available friction between the dowels and the inside perimeter of the hole will have diminished. This was not, as it were, the fault of the dowels themselves.
56. More problematic is the question whether if, contrary to my view, the relevant “Product” is the base together with the dowels, this Product failed to fulfil its intended function. Here again, if the cause of the failure was that the holes into which the dowels were drilled were too short or too narrow, and/or that epoxy resin was not used, or was not properly put in, it does not seem to me that it was the Product (as defined) that failed to fulfil its function. What failed was the arrangement as a whole.
57. The exercise of taking a combination of parts, but not the entirety, of a composite whole (which would include the piles and the dowel and epoxy filled holes in them) as the Product in order to determine whether the Product thus defined, rather than the

whole, failed to fulfil its intended function is artificial. The difficulty in making such a determination supports, as Adana submits and I accept, the construction for which it contends.

58. The exception now in question operates if the liability of the assured “*arises in connection with*” as opposed to “*arises from*” the failure of any Product to fulfil its intended function. I am not persuaded that there is any material distinction, at least for the purposes of the present case. In order for the exception to be potentially applicable the insured’s liability has to have been caused by the Product in question. I find it difficult to envisage a liability which has been caused by the Product and which arises in connection with the failure of the Product to fulfil its intended purpose, which was not caused by that failure.
59. The observations made in the preceding paragraphs are, obiter. They are also made in a partial evidential vacuum and on assumed facts. Evidence adduced in any future proceedings may cast a different light on the causes of collapse and, possibly, confound my provisional conclusion.

*The foundation clause*

60. Aspen contends and Adana disputes that liability for the crane superstructure is covered by the foundation clause which I repeat:

*“It is agreed that this Certificate does not indemnify the Assured in respect of loss of or damage to any superstructure arising from the failure of the Assured’s foundation works to perform their intended function.”*

61. Adana referred to various dictionary definitions. These were, as the judge recorded, the following

“50 .... The Oxford Dictionary online (Oxford University Press) defines ‘superstructure’, so far as relevant, as follows: ‘**a structure built on top of something else** (including) the part of a building above its foundations.’ The Penguin Dictionary of Building (4<sup>th</sup> Edition) defines ‘superstructure’ as: ‘The parts of the structure above ground-floor level, which carry the building enclosure. Greater accuracy is required than for the substructure.’ ‘Substructure’ is defined in the same work as: ‘The part of the building structure below ground level, the foundations and basements or sub-levels. It is usually of reinforced concrete and often protected by tanking. Substructure work is always a critical activity; once it is completed the building is out of the ground and the superstructure can be started.’”

[Bold added in this and the following paragraph]

62. The current online OED definition of superstructure has, so far as relevant the following definitions:

**“A thing built on a distinct foundation; a structure raised on or over something.**

*2 In literal or physical sense*

*a A building considered in relation to its foundation; an upper part of a building, erected on or over a lower part; any material structure resting on something else as a foundation.*”

63. Adana submitted to the judge that the definition cited in paragraph 50 of the judgment accorded with the commonly held understanding that the “superstructure” is part of a building above its foundations, in contrast to foundation works as referred to in the clause, and that a temporarily installed crane could not be said to have been or to have formed part of a “superstructure” constructed pursuant to a building contract. The foundation works carried out by Adana in relation the crane base were not intended to be part of any load bearing function in relation to the superstructure (building) which was to be built; and the crane base was not intended to form part of the foundations that were to be used to support the building that was eventually to be constructed. Its only purpose was to spread the load from the crane which was temporarily to stand atop it.
64. The judge preferred this approach to the clause and held that superstructure in its construction sense connoted a building above the ground, foundations being permanent features which supported the building. The expressions “*foundations*” and “*superstructure*”, particularly the latter did not apply to a temporary crane.
65. The definitions cited display what are broadly two different meanings for “superstructure”. The first is general in character viz “(i) *a structure built on top of something else; (ii) a structure raised on or over something; (iii) any material structure resting on something else as a foundation.*” The second treats a superstructure as part of a building viz “(a) *a structure built on top of something else (including) the part of a building above its foundations; (b) A building considered in relation to its foundation; an upper part of a building, erected on or over a lower part.*” In the latter sense the word is sometimes taken to signify either the ground floor of a building on top of the foundations or the floor(s) above the ground floor.
66. Whilst I see the force of the argument that caused the judge to reach his conclusion I am of a different opinion. Four matters seem to me of material significance.
67. First, this is a clause intended to operate in a general building contractors’ liability policy in force for a year. Whilst that could be expected to involve substantial building work it could also be expected to embrace other work such as the erection of a crane, in relation to which Aspen could legitimately seek exclusion.
68. Second, the clause is expressed in very general terms so as to apply to loss of or damage to “*any*” superstructure. It does not apply only to buildings. If, as the judge found, “*superstructure*” was intended only to connote a building above the ground, it would have been very easy for it to say so.
69. Third, the nature of the foundation works (from the failure of which to perform their intended function the assured’s liability must arise) is not limited or confined in any way. In the present case the crane base was not intended to bear the load of the crane. But it was intended to spread it. In those circumstances it seems to me that in constructing the crane base Adana was carrying out foundation works in relation to the crane – the “*structure*”, which was to rest on top of (“*super*”) the base.

70. Fourth, I see no good reason why the fact that the crane base was only intended to be there temporarily should mean that it cannot be a superstructure.
71. For these reasons I would hold that the crane was a superstructure within the meaning of the clause.
72. If that is so the question arises as to whether any damage to it arose from the failure of the Assured's foundation works to perform their intended function. This is a different question to the question whether any liability was caused by a Product, which will depend on what the Product is. The answer to it, in my view, is that the damage to the crane did arise from the failure of the Assured's foundation works to fulfil their intended function. The intended function of those works, which included the placing and fixing of dowel bars into the piles in holes which Adana itself had drilled, was to transfer the tensile load to the piles in such a way that the crane did not topple over. That function failed to be fulfilled.
73. I would therefore allow the appeal to the extent of declaring (i) that, on the proper construction of the Foundation Clause in the policy, the crane was a "*superstructure*" within the meaning of the policy; (ii) that the works carried out by Adana in constructing the crane base and installing the dowel bars and applying bonding material to those dowel bars were foundation works within the meaning of the policy; and (iii) that any liability that may be established against Adana in respect of the damage to the crane itself is a liability excluded under the Foundation Clause.

**Lord Justice Vos:**

74. I agree.

**Lady Justice Gloster:**

75. I also agree with the judgment of Christopher Clarke LJ. In circumstances where, as we have been told, the claims, additional claims and defences in the liability proceedings have not yet been fully pleaded, let alone determined, I would also wish to express my grave reservations as to whether it was appropriate to determine the coverage issues on the basis that, necessarily, many of the facts were assumed or uncertain.



# Appendix

