Neutral Citation Number: [2006] EWHC 1344 (Pat)

Case No: HC03C02313

IN THE HIGH COURT OF JUSTICE
CHANCERY DIVISION
PATENTS COURT

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 9 June 2006

Before :

THE HONOURABLE MR JUSTICE KITCHIN

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Between :

Ultraframe (UK) Limited	**Claimant**
- and -	
(1) Eurocell Building Plastics Limited	**Defendants**
(2) Eurocell Profiles Limited	

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Mr Mark Platts-Mills QC , Mr Adrian Speck and **Ms Jessie Bowhill** (instructed by **Pannone**) for the **Claimant**
Mr Roger Wyand QC and **Mr Douglas Campbell** (instructed by **Martineau Johnson**) for the **Defendants**

Hearing dates: 21-24, 29-30 March, 26-28 April, 1-2 May 2006

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Judgment

The Honourable Mr Justice Kitchin:

Introduction

1. This is an enquiry as to damages in an action for infringement of patent and unregistered design rights relating to conservatories.

2. The claimant ("Ultraframe") is one of the market leaders and sells a number of modular systems, one of which is called Ultralite 500. Until 2002, the defendants (collectively "Eurocell") were one of the largest distributors of Ultralite 500 systems. In that year they began to make and sell their own system called Pinnacle 500.

3. Ultraframe thereupon sued Eurocell for infringement of patent no. 2,300,012 and of unregistered design rights in the panels, some components and the whole assembly of the Ultralite 500 system. The trial of the action came before Lewison J. In his main judgment [2004] EWHC 1785 (Ch), [2005] RPC 111, Lewison J held that the patent was valid but not infringed. He also held that the Pinnacle 500 panels and whole assembly infringed Ultraframe's unregistered design rights. In a supplementary judgment Lewison J held that it was legally possible for a defendant to undertake, pursuant to s.239 of the Copyright Designs and Patents Act 1988, to take a licence under s.237 even though at the time of the undertaking rights in the design had expired. The effect of this is to limit the amount of damages which can be claimed for infringement of unregistered design right to twice the royalty fixed by the comptroller.

4. Both sides appealed these findings. In its judgment [2005] EWCA Civ 761, [2005] RPC 36 the Court of Appeal held, by a majority, that the patent was infringed but otherwise upheld the findings of Lewison J. On 7 July 2005, the Court of Appeal granted an injunction to restrain further infringement.

5. On 26 August 2005, Ultraframe made an application for payment of damages on account. The application was heard by Pumfrey J who ordered Eurocell to pay to Ultraframe £800,000 by way of an interim payment.

6. At the hearing of the inquiry both parties recognised that the claim for damages for infringement of unregistered design rights was effectively subsumed within the claim for damages for infringement of patent. In these circumstances they treated the claim as one for patent infringement alone. In this judgment I will therefore do the same.

Background

Types of conservatory

7. There are three basic types of conservatory, namely "dual pitch", "steep lean-to" and "low pitch". They were described by Lewison J at [4]–[11] of his judgment. Since they are relevant to the issues I have to decide, I set out his description:

> "4. Mr Savage, Ultraframe's expert, explained the background to the industry in his initial report. He did so in non-technical language; and I adopt his summary, which was not challenged. There are three basic types of conservatory.

"Dual pitch" conservatories

5. These are the best recognised types of conservatory with a ridge and dual pitch roof. These roofs tend to look elegant and expensive, but involve substantially more components than lean-to roofs and take more time to fabricate, and so are more expensive. A common type of dual pitch roof was in 1992 (and still is) the "Victorian" style roof.

"Steep lean-to" conservatories

6. This expression describes lean-to (mono-pitch) roofs of between around 10° to 30°. These fairly common roofs can and should be distinguished from the more specialised "low-pitch" conservatory roofs. Because lean-to conservatories are rather easier to install and are cheaper than dual pitch roofs, they are often favoured by less experienced fabricators. However, the options are generally far more limited with this type of roof, and they do not tend to look as attractive. Some early lean-to conservatories were little more than glorified carports.

Low-pitch roofs of less than around 5°

7. In the early stages, 5° was really the lower limit of these roofs, since the materials used (slab polycarbonate sheets for example) were not guaranteed for use at an angle less than this. The angle was limited by a number of things, but particularly rain-water run-off. Serious problems result if rain-water starts to pool on the roof and whether it does or not will depend on a number of factors, such as the stiffness of the panels and so on.

8. The last of these three roof types began to grow in the early 1990s because the first two roof types were less than ideal for a number of applications. For example where the wall to which the roof will be affixed is of fairly low height, for example a bungalow wall, it is not possible to use a "steep lean-to" roof. This is because the height of such a conservatory at the house wall needs to be substantially higher than the height of the conservatory at its eaves. It is also difficult to use a dual pitch roof, since the conservatory will then have to have a box gutter running between it and the bungalow, which is expensive in the short term and often troublesome in the long term. A solution was the use of low-pitch lean-to roofs with pitches of 5° or even less. These could start at the highest point of the bungalow wall and yet maintain an acceptable internal height up to the eaves. In 1992/3 the market for low pitch roofs had not really been tapped.

> 9. Just like the dual pitch conservatories before them, low-pitch conservatory roofs were initially fabricated on site by builders who would cut and fit all the components. This would preferably be done using timber and glass for example. Gradually builders began to try and "botch" together roofs using plastic profiles from vertical window systems and the glazing bars from the systems that were being and had been developed at the time for dual pitch roofs, (*i.e.* modular component systems for use in conjunction with plain glass sheets) with polycarbonate sheets.
>
> 10. Then manufacturers began to produce modular roofing panel systems to make putting together low-pitch roofs easier. These panels would normally be attached to each other, rather than *via* glazing bars or timber beams for example. However, these roofs were still the poor relations of Victorian-style systems. They tended to be fairly basic in appearance (often looking a bit like the corrugated iron or plastic sheeting you find on carports, very basic lean-to structures, etc) and certainly nobody seemed to have given a great deal of thought to the aesthetics.
>
> 11. The design considerations for the different types of roof differed from each other. Designing a dual-pitch conservatory is a bit like designing a half- timbered or a steel framed building. The framework provides the structural rigidity and strength, and then the walls are filled in. In the same way in a dual pitch conservatory (particularly the later, modular component types), extruded aluminium components provide a framework into which sheets of glass, etc fit. Calculating the necessary thickness of the structural components for example is a straightforward calculation of I-values, etc. With modular panels as used in the later low-pitch roofs on the other hand, it is the roof panels themselves that provide the strength and stiffness in the roofs. Whilst there were often stiffening members added, the calculations of how thick the panels needed to be, etc is a complicated one, particularly because of the hollow ducted nature of the panels. The principle of the two types of roof from a structural point of view is therefore rather different, although naturally most of the factors that must be taken into consideration, (*e.g.* wind loads, snow loads, etc) remain the same."

8. By the early 1990s there were three principal low pitch modular roof panels on the market. Everlite held approximately 70% of the market, Eurolyte approximately 25%, and the remainder was held by Ultraframe with a product called Ultralite 250.

Ultralite 500

9. Ultralite 500 was introduced into the low pitch roof market in 1993. It proved to be a great success. It was the only product guaranteed to operate at a pitch of 2.5° from the wall to which it was affixed, meaning it was an ideal product for use against bungalows with a restricted head room. By contrast, Everlite and Eurolyte were only recommended for use at a pitch of 5° and above.

10. Further, Ultralite 500 was sold as a complete roof system. It included a ventilated wall plate, wall fixings, panels and gutters. As a complete system, it was easy to order and could be assembled more readily by fitters. All they had to do was to lay out the panels side by side and slide a strengthening or stiffening bar into place to hold the panels together. Competitive products required clipping the panels together, an altogether lengthier operation.

11. Another attractive feature of the Ultralite 500 was that it came pre-packed in a box, making it easy to handle. Once assembled it had a flat appearance as opposed to the curved or corrugated outer surfaces of competitive products.

12. At the trial Lewison J accepted, in the light of all the evidence, that the Ultralite 500 system was a ground breaking product. He said this at [125]–[126]:

> "125. Even if individual features of the design were unoriginal or commonplace (which I return to later), the overall assembly was neither. Mr Savage put it as follows:
>
> > "I believe that the Ultralite 500 system was groundbreaking because it was really the first time that a designer had designed a system specifically for low-pitch conservatory roofs and had given any great thought to the whole package of the roof, including the panels, the top caps and end caps and so forth. Those roofs made with 'modular' panels before this date had not been designed as a whole package in which each component complemented the others. The assembly of the Ultralite 500 system as a whole has an expensive feel-it was a substantial step forward from what was previously available."
> >
> > "To me in 1992 (and even today) the whole design of the Ultralite 500 system and the individual elements of it, stood out immediately (and still stand out) from the alternatives that were available."
>
> 126. Based on the examples of contemporary designs that I was shown, I agree with this."

The success of Ultralite 500

13. There is no doubt that Ultralite 500 has been very successful. By 2002 Ultralite 500 had developed an extremely strong market position with about 80% of the low pitch market. The other products which were available were generally either the older products, such as the Everlite, with a more industrial or commercial appearance and

so less attractive for residential purposes and not very easy to install (with about 13% of the market), or were products based essentially on dual pitch roof systems but with modifications, such as the more recently introduced L2 made by a company called K2, a member of the Burnden Group, (with about 6% of the market).

Eurocell

14. Eurocell are designers, extruders and suppliers of window systems and other plastic components for the building materials industry. Prior to the launch of Pinnacle 500 in July 2002, Eurocell were distributors of Ultralite 500. From 1997 to 2002 Eurocell purchased increasingly large quantities of Ultralite 500 and became one of Ultraframe's leading customers and distributors. As one of the main distributors of Ultralite 500, Eurocell were receiving, at the beginning of 2002, a discount of 26% on the Ultraframe published prices.

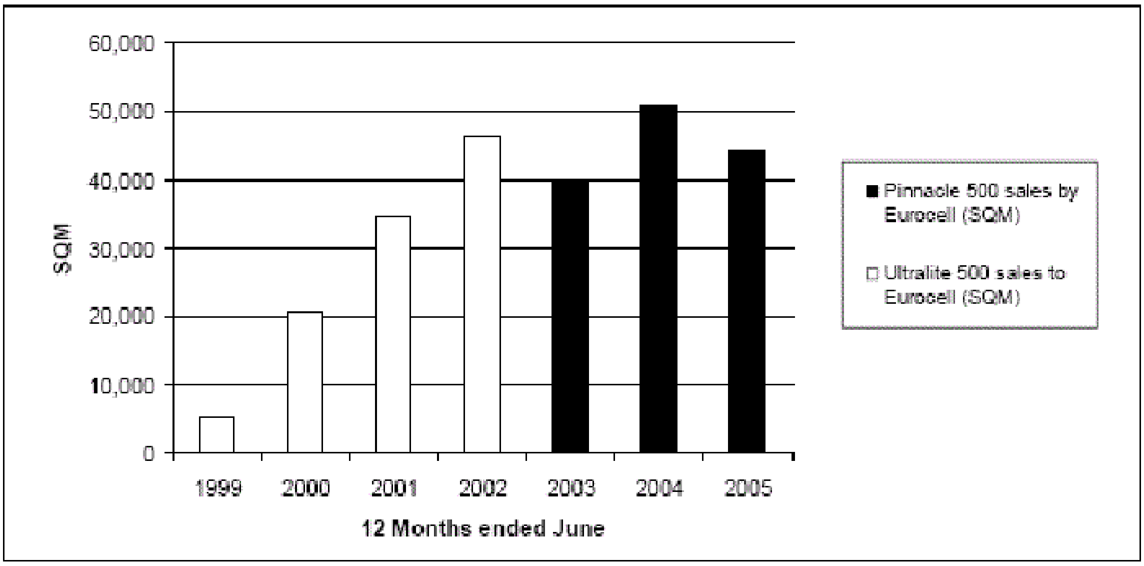
15. In March 2001, Eurocell launched their own design of a dual pitch conservatory called "Pinnacle". Then, in March 2002, Eurocell announced the launch of Pinnacle 500 at a major annual trade exhibition called Glassex. Pinnacle 500 has the same appearance as Ultralite 500. Indeed it is so similar that when Mr Allen, then the Sales Director of Ultraframe, saw it on the Eurocell stand at the Glassex exhibition he thought they were exhibiting Ultralite 500. It was only on close inspection of the guttering that he appreciated that they were not.

16. Eurocell have disclosed only one document relating to the decision to design and launch the Pinnacle 500 product. This document was referred to at the hearing as the "Fairbrook Presentation" document and it was disclosed pursuant to an order for specific disclosure. It was produced in about September 2001 and it clearly reveals Eurocell's intention to pitch Pinnacle 500 directly at Ultralite 500, as is apparent from the following extract:

> "Pinnacle 500 will be in direct competition with the Ultralite 500 system by Ultraframe, which is currently sold through Eurocell's network of Trade Counters, with total purchases amounting to £2.4m per year, and an external sales value of £3m. This will utilise approximately 30% of the machine and tool capacity enabling us to increase our market share."

17. So successful were they in their plan that Eurocell were immediately able to achieve sales of Pinnacle 500 at similar levels to those achieved previously for Ultralite 500 and, indeed, maintained those sales over the next three years as illustrated by the chart below:

Hall 1, fig 2.1 – based on sales of Pinnacle 500 admitted by Eurocell



18. In answer to the allegation of infringement of unregistered design right, Eurocell advanced at trial a case of independent design in relation to various features of Pinnacle 500. In particular, Mr Redshaw, the technical design manager of Eurocell, was in charge of design and gave general evidence about the approach undertaken. In addition, a Mr Rick gave evidence as to the design of the top caps. In the light of that evidence Lewison J held, at [41], that he had no doubt that Ultralite 500 was the primary object of study of the design team. He also found, at [42], that although Mr Redshaw's witness statement was careful to suggest independent decisions and reasons for the various features of Pinnacle 500, he did not consider that the evidence withstood cross examination. Finally he decided, at [46], the Eurocell design team were instructed to design a modular roofing system to compete directly with Ultralite 500 and that, with the exception of the top caps, they took Ultralite 500 as their starting point and made certain changes to it, partly to address perceived deficiencies in Ultralite 500 and partly to "design round" the patent and Ultraframe's design right. In the end, Lewison J decided that the attempt to design around the unregistered design right failed.

Scale and consequences of infringement

19. There can be no doubt that Eurocell's business in the infringing Pinnacle 500 conservatory roofs has been substantial and has taken place over more than three years. Mr Hall, the expert witness called on behalf of Ultraframe, calculated, on the basis of Eurocell's disclosure, that over that period they sold 10,420 roofs amounting to 135,403 SQM (square metres), with a sales value of some £5.8 million. There is a slight difference between the experts as to the precise figure. Mr Plaha, the expert witness called on behalf of Eurocell, suggested it should be some 134,261 SQM. He made a deduction from the figures in the sales ledger because he believed they include

a small quantity of inter-depot transfers. Mr Hall believed that he had not been provided with sufficient information as to why the sales should be excluded. The difference is small and was not explored in evidence. In the light of the approximations which I have to make later in this judgment I think that an appropriate starting point is to take a figure of 135,000 SQM.

20. More importantly, during the course of the hearing, and as I explain later in this judgment, it emerged that Ultraframe contend that there has been a substantial under disclosure and that Eurocell have deliberately concealed large quantities of sales. In any event, loss of profit on these infringing sales is one of the major heads of damages claimed.

21. A further issue arises from Ultraframe's pricing policy. Eurocell launched Pinnacle 500 at a price about 10% below that of Ultralite 500. Eurocell suggest that the price was determined by "market conditions". However, it is clear that Pinnacle 500 was intended to compete directly with Ultralite 500. Further, there is no evidence that it was priced by reference to any other product. In all the circumstances I think it a reasonable inference that the intention of Eurocell in undercutting the price of Ultralite 500 was to persuade customers to move to Pinnacle 500. Ultraframe contends that as a result of this pricing activity it was unable to raise the price of the Ultralite 500 product and was instead forced to reduce the price to retain its market share.

22. Ultraframe also contends that the inevitable effect of the infringing activity has been that customers have moved away from Ultraframe and built up a commercial relationship with Eurocell who have been able to promote and present themselves as independent suppliers of a complete range of products (a "one-stop-shop"), and so attract those who seek a single supplier of related products, here Pinnacle and Pinnacle 500.

Synseal

23. It is convenient to mention at this point a company called Synseal. Synseal formerly only made and sold window systems. It entered the conservatory roof market with a dual pitch system called "Shield" in 2002 and entered the low pitch market with a re-branded version of Eurocell's Pinnacle 500 product under the name "Lo-Pitch" shortly afterwards. It seems that an agreement was reached in about July 2002 under which Eurocell sold Pinnacle 500 to Synseal at a very high discount of some 45%. This arrangement seems deeply suspicious to Ultraframe because Synseal is a competitor of both Ultraframe and Eurocell. The discount enabled Synseal to offer Lo-Pitch at a list price some 13% below Eurocell's list price. Ultraframe contends that there was no obvious benefit to Eurocell in supplying to a competitor at such low prices and, moreovcr, that no satisfactory explanation has been provided for the fact that Synseal has apparently only made limited sales despite these very low prices. Ultraframe submits that the only rational explanation is that Eurocell have sold a good deal more Pinnacle 500 product to Synseal than they have disclosed, with the result that Ultraframe has suffered further loss of profit and a further downward pressure on its prices. In June 2005 Synseal began selling its own low pitch product called Global 600.

Elevation

24. In 2004 Ultraframe developed a new product called Elevation. It contends it took this step to compete with Pinnacle 500 and in an attempt to recapture some of the market and mitigate its loss. It says that having attempted, over a period of time, to meet the competition by advertising and promotional activity, it really had no alternative. Eurocell had, overnight, converted what had been a unique product into a generic product by creating two new, apparently independent, sources for it (that is to say Pinnacle 500 from Eurocell and Lo-Pitch from Synseal). In the circumstances it was forced to develop a new design and it duly did so.

The Capex/Boxlite document

25. The Capex document (entitled "Boxlite Project Capital Expenditure Request") was characterised by Eurocell as one of the most relevant and crucial documents in the case. It emerged shortly before the hearing. It was prepared in support of a proposal that the Board should approve the expenditure of over £1million on the Elevation project. It is relevant to two aspects of the case. First, it contains reasons for the development of Elevation. Secondly, it contains an assessment by the Capex project team of the state of the market in April 2004.

26. Some of the key features of the Capex document upon which Eurocell rely are the following. The document begins with what it describes as a "Description of the problem", namely that sales of Ultralite 500 grew strongly until 2002 when they went into decline. It explains:

> "Reasons for this include
>
> - More widely available and cheaper roofs (K2 and Global) and complete conservatories (BHD and Cestrum) that were not lean-to's.
>
> - Ultraframe was "locked out" of one of the industry's major distributors Eurocell who simultaneously launched a copycat product at a list price slightly less than Ultralite's and with an ability to give greater discretionary discounts.
>
> - Consumers, or a percentage of them, were voting with their feet and choosing the (perceived to be) more aspirational duo pitch Victorian.
>
> - Consumers buying at the budget end of the market have been able to choose from a wider range of installation routes, including internet, catalogue, merchants, plastics specialists and, of course, the large DIY retail chains, B&Q and Wickes rather than through professional home improvement companies (our main route).
>
> - Product weaknesses
>
>   Only 1 colour glazing option, 10-year warranty only on white. Perceived colour matching &

> brittleness issues. Cannot use blinds on PVC product.
>
> New building regulations may render the existing panel product obsolete (PVC fire hazard).”

27. It then proceeds to describe the proposed solution which was to produce a new product which in time would replace Ultralite 500 but with additional features to extend the product to a broader market segment. Major considerations taken into account by the design team were said to be compliance with building regulations, to make the new product more fitter friendly than Ultralite 500, to produce a design with an appeal to consumers beyond the perceived “tired” look of Ultralite 500 and offering design features and enhancements that would “re-invigorate consumer and trade interest in the lean-to category”.

28. There follows a description of the “market” for lean-to roofs which includes “Victorian” dual pitch roofs. It describes the total annual market for such roofs as growing slightly over the period 1999 to 2004 but with the share of the market taken by panel roofs declining as the sales of Victorian roofs increased. It was proposed to price Elevation (then called Boxlite) at a lower price than competitive products, including Ultralite 500, with a view to creating a significant challenge to the competition.

29. The Capex document was accompanied by a “positioning paper” from which much of the information in the Capex document appears to have been taken. It was first drafted in October 2003 and then revised in January 2004. It was prepared by Mr Hanson, a manager in Ultraframe’s marketing department. It contains further background material upon which Eurocell rely. In particular it describes the Ultralite 500 and Victorian systems and continues:

> “Each product is aimed at a different segment of the market but there is significant overlap. Concern has been expressed that market demand for lean-to’s is softening and, due to competitive pressures, Ultraframe’s share of the market is declining. This will be challenged later.
>
> The twin issues of a softening market and declining market share are major drivers to this project plus the requirement to make Ultralite 500 compliant with the anticipated changes in Building Regulations in 2005 (fire performance, means of escape).”

30. The positioning paper also describes the competitive situation. The first competitor mentioned is K2. It explains that K2 had recently launched the L2 with the slogan of a “roof in a pack” and had acquired market share through heavy advertising and impressive corporate literature. It notes, however, that K2 had problems with its distribution network. The second competitor mentioned is Eurocell with the launch of Pinnacle 500, which it describes as a version of Ultralite 500. Later the paper describes the competition posed by dual pitch Victorian conservatories and explains that the project had been progressing on the basis that the new product would replace

Ultralite 500 but with additional features to extend the appeal of the product to a wider market. It concludes with the observation that the lean to market was in structural decline.

31. Ultraframe mounted a substantial attack on the contents of these documents, suggesting that the conclusions they contain did not reflect reality. I have no doubt that those conclusions conflict with the views of Mr Allen and Mr Richardson. Nevertheless, the documents are detailed and were prepared by a team specifically set up to consider a new product. That team included Mr Hanson who, as Mr Allen accepted, did spend a significant amount of time talking to customers and knew what he was talking about with respect to competitor products. In my judgment the Capex document is a valuable contemporaneous record and represents a considered view of the low pitch market. I will deal with the impact of these documents on the specific heads of claim later in this judgment.

Heads of damage and issues for determination

32. Against this background I can now consider, in outline, the heads of damage claimed and the issues which require determination.

Loss of profit

33. First, there is a dispute between the parties as to the quantity of Pinnacle 500 sold by Eurocell. This became a major issue during the course of the trial.

34. Secondly, Ultraframe contends that 'but for' the infringement Eurocell would have continued selling Ultralite 500. Further, until mid-2002 Eurocell were one of the largest distributors of Ultralite 500. As a result, they had an existing customer base to which they supplied the infringing and visually and functionally almost indistinguishable Pinnacle 500 product. Therefore, Ultrafame says, every sale of the infringing product made by Eurocell represents a sale lost to Ultraframe. It contends that it is difficult to imagine a stronger case of 100% one-for-one replacement of sales.

35. Eurocell say that it cannot be assumed that they would have carried on selling Ultralite 500 but for the infringement. Further, they say that the suggestion that all Pinnacle 500 sales represent lost Ultralite 500 sales is too simplistic and, in support of their position, rely on a detailed survey of their customers and their buying patterns.

36. Finally, there is a substantial dispute as to what Ultraframe's lost profit on each sale was. Two broad issues arise. First, what net price would have been achieved on the lost sales of Ultralite 500 products? This is an important question and it gives rise to a further and substantial head of damage because Ultraframe contends that it had to reduce its prices to meet the threat presented by the infringement, as elaborated below. Secondly, what costs need to be deducted from the net price to calculate the margin?

The royalty to be paid on the sales that Ultraframe would not have made

37. If Ultraframe would not have made the sales then it is accepted that a reasonable royalty is payable on the remainder. However, there is a dispute as to what that

royalty should be. At a rather late stage Ultraframe has suggested 17.5%. Eurocell say 5% is more realistic, particularly bearing in mind the nature of the invention and that the licence is only in respect of sales that Ultraframe would not have made in any event.

Price depression on sales which Ultraframe did make

38. In addition to targeting Ultraframe's existing customer base, Pinnacle 500 was priced at approximately 10% less than the price of Ultralite 500 and maintained at that price throughout the period of infringement. Ultraframe contends that in order to be able to compete effectively in the market it was forced to reduce the price of Ultralite 500 by giving larger discounts and rebates and not implementing any price increases. This translates into substantial sums since it affects all of the Ultralite 500 products sold by Ultraframe, not just those it would have sold through Eurocell.

39. Eurocell strongly dispute this claim. They say that any price depression was due to increased competition from non infringing third parties in a declining market – and this is why Ultraframe has not been able to increase its prices after infringement ceased last July. They point to the fact that Ultraframe alleges that the product forms its own distinct market sector and that but for the infringement it would have had 80% of the sales in this sector. If there were not increased competition in a declining market such a monopoly position would have enabled Ultraframe to re-establish its prices once Eurocell were out of the market. This Ultraframe has failed to do.

Loss of sales of other products

40. Ultraframe contends Eurocell provided to customers an alternative and attractive source (in fact, with Synseal, two sources) of a product that is perceived to be the same as Ultralite 500. As a result they attracted customers who formerly purchased from Ultraframe. These customers have taken the opportunity to review and, in a substantial number of cases, remove their business for dual pitch products from Ultraframe. Ultraframe has therefore lost sales of other conservatory products it would have made but for the infringement.

41. Eurocell dispute this claim. They submit that the damage claimed is not recoverable in law because it is too remote and was not caused by the infringement. They point to the fact that the argument is inconsistent with Ultraframe's claim that the market for low pitch roofs is independent of the market for any other conservatory products. They also say that Ultraframe has not adduced any evidence from any customer to support the argument and further, they have analysed records of their customers' purchasing habits which demonstrates that the argument fails on the facts.

Ongoing losses

42. Ultraframe argues that it is continuing to suffer from the effects of the infringement despite the grant of the injunction in July 2005. It says it has failed to recover any significant portion of the market and has not been able to increase its prices. Accordingly it is continuing to suffer loss of sales, from price depression and loss of sales of other dual pitch products. It estimates that the effect may last for 2 to 3 years.

43. Eurocell say there are no such continuing losses, and rely on Ultraframe's trading position as evidence of the market's general decline. They also point to the fact they have effectively withdrawn from the low pitch market, having only sold some £70,000 worth of a product made by a company called Wendland since the date of the injunction.

Costs associated with the mitigation of damage

44. Ultraframe claims the loss it sustained in designing and developing the new roof system called Elevation to address the fact that the infringing Pinnacle 500 product had come to market. It says the evidence is clear – the invasion of the Ultralite 500 market by Pinnacle 500 was the cause for the development of the Elevation product which commenced in August 2003.

45. Eurocell submit that the argument fails on causation because Elevation was introduced for other reasons.

Interest

46. The parties are agreed that Ultraframe is entitled to interest at the rate of LIBOR + 1%. Eurocell say that it should be at the 3 month rate. I did not understand that to be disputed.

Legal Principles

47. The general principles to be applied in assessing damages for infringement of patent are now well established. Many were considered in *Gerber Garment Technology v Lectra Systems* by Jacob J at first instance at [1995] RPC 383, and by the Court of Appeal at [1997] RPC 443. So far as relevant to the present case, they can be summarised as follows:

    i) Damages are compensatory. The general rule is that the measure of damages is to be, as far as possible, that sum of money that will put the claimant in the same position as he would have been in if he had not sustained the wrong.

    ii) The claimant can recover loss which was (i) foreseeable, (ii) caused by the wrong, and (iii) not excluded from recovery by public or social policy. It is not enough that the loss would not have occurred but for the tort. The tort must be, as a matter of common sense, a cause of the loss.

    iii) The burden of proof rests on the claimant. Damages are to be assessed liberally. But the object is to compensate the claimant and not to punish the defendant.

    iv) It is irrelevant that the defendant could have competed lawfully.

    v) Where a claimant has exploited his patent by manufacture and sale he can claim (a) lost profit on sales by the defendant that he would have made otherwise; (b) lost profit on his own sales to the extent that he was forced by the infringement to reduce his own price; and (c) a reasonable royalty on sales by the defendant which he would not have made.

vi) As to lost sales, the court should form a general view as to what proportion of the defendant's sales the claimant would have made.

vii) The assessment of damages for lost profits should take into account the fact that the lost sales are of "extra production" and that only certain specific extra costs (marginal costs) have been incurred in making the additional sales. Nevertheless, in practice costs go up and so it may be appropriate to temper the approach somewhat in making the assessment.

viii) The reasonable royalty is to be assessed as the royalty that a willing licensor and a willing licensee would have agreed. Where there are truly comparable licences in the relevant field these are the most useful guidance for the court as to the reasonable royalty. Another approach is the profits available approach. This involves an assessment of the profits that would be available to the licensee, absent a licence, and apportioning them between the licensor and the licensee.

ix) Where damages are difficult to assess with precision, the court should make the best estimate it can, having regard to all the circumstances of the case and dealing with the matter broadly, with common sense and fairness.

48. I will deal with further aspects of the law as necessary in addressing the various heads of loss claimed.

The witnesses

49. I heard evidence from the following witnesses on behalf of Ultraframe:

Mr Richardson

50. Mr Richardson is the Group Technical Director of Ultraframe plc, the parent company of the claimant, Ultraframe. He gave evidence on a number of aspects of the technical background to the products in issue. He also gave evidence in relation to the development of Elevation and the Capex document. This evidence was the subject of substantial criticism by Eurocell. It is said that his evidence was an attempt to put a "spin" on the document, that he was determined to "rubbish" virtually everything in it and that he only grudgingly accepted that he only had a peripheral involvement with the project. In the result, it is submitted, Mr Richardson is not a witness in whom I can feel much confidence. I formed the view that Mr Richardson was concerned to make every point he could to support the position of Ultraframe but overall I think the criticisms are unjustified. I believe that he gave his evidence honestly and that he truly held the opinions he expressed. Nevertheless, it became apparent that, despite being the witness asked to address the Capex document, he had no involvement with its creation or approval and his only involvement with the Elevation project was at the outset. These are important matters to take into account when assessing his evidence on the subject.

Mr Allen

51. Mr Allen was Sales Director of Ultraframe until October 2004. Since then he has been based in the USA as Vice President, Sales and Marketing of Four Seasons Solar

Products LLC, a related company. I found him to be a straightforward and truthful witness. However, he was unable to give any evidence as to the state of the low pitch market in this country after the date of his departure.

Mr Wallis

52. Mr Wallis is Finance Director of Ultraframe, a qualified accountant and member of the Institute of Chartered Accountants of England and Wales. He gave evidence as to the sales values and volumes of Ultralite 500 and as to overheads and the costs of Elevation. He did not have direct experience of the markets in issue. He gave his evidence clearly and honestly.

Mr Hall

53. Mr Hall gave expert evidence on the issue of the losses suffered by Ultraframe. He is a Fellow of the Institute of Chartered Accountants in England and Wales and a Managing Director at AlixPartners Ltd where he specialises in the provision of forensic accounting and accounting expert witness services. It is suggested that I should take care with Mr Hall's evidence because he was concerned more to defend the assertions of Ultraframe than to test them. I do not accept this criticism. In my judgment Mr Hall gave his evidence objectively and I have found it to be of considerable assistance.

54. I heard evidence from the following witnesses on behalf of Eurocell:

Mr Bateman

55. Mr Bateman is a director of each of the defendant companies. He is also Chief Executive Officer of Fairbrook Plc, their parent company. It is suggested that Mr Bateman was a witness who was less than candid with the court and furthermore, was one who was willing to rely on anything that supported his case, and discard anything that did not. I reject this criticism. Mr Bateman gave his evidence in a careful and calm manner under what was, at times, aggressive cross examination. Mr Bateman was, however, hampered in his efforts to deal with many of the issues put to him because he only joined Eurocell in September 2004. In particular, he was not in the business at the time the decisions were made to develop and launch Pinnacle 500 or to trade with Synseal and therefore could do little more than speculate as to the basis upon which those decisions were taken.

Mr Beasley

56. Mr Beasley is the Chief Financial Officer of Fairbrook. He is also the Finance Director of each of the defendant companies and the Company Secretary of all three companies. It is said that he was no better than Mr Bateman. I believe that Mr Beasley gave his evidence honestly. However, as I explain below when addressing the issue of sales quantities, he created difficulties for himself by being too ready to offer explanations before he had fully investigated matters.

Mr Plaha

57. Mr Plaha gave expert evidence on behalf of Eurocell. He is a Fellow of the Institute of Chartered Accountants in England and Wales and a partner in BDO Stoy Hayward LLP. He has many years experience in forensic accounting and, in May 2001, assumed responsibility as partner in charge of his firm's Forensic Accounting Department in the Midlands. He gave his evidence before me honestly and objectively although I have to say that aspects of his reports did appear to take a rather extreme line. For example his reports suggested that no price depression had occurred as a result of the infringement, a position which he did not maintain in the course of cross examination. Overall, however, and as in the case of Mr Hall, I have found his evidence of great assistance.

The heads of claim

58. I now address in turn each of the heads of claim relied upon by Ultraframe.

A. Loss of profit
Issue A 1: How much Pinnacle 500 was sold?

59. Eurocell have admitted sales of about 135,000 SQM of Pinnacle 500 over the whole period of infringement, that is to say from March 2002 to July 2005. Ultraframe has mounted a major attack in this figure and maintain that, in truth, sales were substantially greater. The attack has four limbs which I will refer to as (a) "the Redshaw evidence", (b) Mr Davies' e mail query, (c) packaging scrap and (d) Synseal.

The Redshaw evidence

60. The starting point of the attack is a witness statement of Mr Redshaw, dated 30 June 2005. This was apparently made in an attempt to resist the grant of an injunction. Mr Redshaw explained the number of infringing systems held in stock and then gave an estimate of the days it would take to sell them based upon the trading figures of the preceding 18 months.

61. From this it is relatively easy to calculate the quantity of Pinnacle 500 sold. Mr Richardson did the calculation in a witness statement dated 10 August 2005. It comes to a figure of 137,190 SQM (amounting to some 10,975 roofs) over the 18 month period, that is to say half of the period of infringement. Not surprisingly, Ultraframe says that this reveals that Eurocell sold twice the quantity of Pinnacle 500 they have disclosed.

62. Eurocell sought to counter this conclusion. First, Mr Beasley made a statement on 22 March 2006, after the hearing of the enquiry had commenced. He explained that he did not realise that any point arising on Mr Redshaw's evidence was in issue as Eurocell had disclosed all product sales of Pinnacle 500 in a spreadsheet in October 2005. These figures were audited by KPMG, in advance of the application by Ultraframe for an interim payment, and since then BDO had independently verified them. Nevertheless, he explained that he had provided the table of stock days for Mr Redshaw and that, on reviewing them, he realised there was a mistake in the way the figures were collated which was attributable to the use of their new "SAP" computer system. In particular, the figures included movements within the warehouse and out of the warehouse to branches. There was thus a double counting.

63. On 24 March 2006, Mr Beasley made a further statement with a different explanation. He now said that he had put in hand further work which revealed that the stock quantities to which he had referred in gathering the data for Mr Redshaw were for individual lengths of panel whereas each pack contained two such lengths. Mr Redshaw was concerned with the number of packs in stock, not the number of individual panels. So he realised that he should have divided the stock quantity by two.

64. Mr Beasley was cross examined upon this evidence and he confirmed that the explanation given in his witness statement of 24 March was the correct one. However, it presented him with a difficulty. The stock figures given by Mr Redshaw include certain figures which are not complete numbers. For example, Mr Redshaw said that there were "494.5" packs of 2.5m panels in stock. If, as Mr Beasley said, the stock figures related to panels, not packs, then it is hard to see how the stock records could have included a fraction of a number.

65. Mr Beasley was unable to offer any explanation for the appearance of these fractions. Ultraframe says the explanation is straightforward: Mr Beasley was lying. The difficulty with this is that Ultraframe's explanation is not satisfactory either. Eurocell only rarely split packs and, in so far as they do so, this happens in the shop, not in relation to the product in stock.

The sales ledger

66. During the course of the hearing Eurocell produced an extract from a sales ledger (K2/48). This appeared to show sales in 2004 from the second defendant ("Eurocell Profiles") to the first defendant ("Eurocell Plastics") of, approximately, 102,500 SQM of Pinnacle 500 packs and panels (a small amount was sold to Synseal). The packs have "PPP" codes and the panels have "CRS" codes. Since the product was apparently sold, Ultraframe say it must be assumed that it had successfully passed through the extruder and was in a form suitable to be delivered.

67. The figure is substantially in excess of the figure of some 49,000 SQM disclosed for 2004. Further, if extrapolated over the whole infringing period, it suggests sales substantially in excess of the 135,000 SQM disclosed. Not surprisingly, this caused Ultraframe great concern. It contended that the product sold under the CRS codes represented external sales which had not been disclosed. Eurocell responded that the CRS codes related to components used to produce the Pinnacle 500 kits and that these were all internal sales. Ultraframe did not accept this explanation. It wanted access to the records to check the position. In the event both sides agreed this would not be possible without a substantial adjournment. Accordingly I did adjourn the hearing to enable Ultraframe to conduct the necessary further investigations.

68. The explanation provided by Eurocell is essentially as follows. Prior to March 2004, Eurocell chose to operate their manufacture and sales operations through the two different companies, Eurocell Profiles and Eurocell Plastics. Eurocell Profiles manufactured and assembled the Pinnacle 500 system packs and sold them to Eurocell Plastics, save for certain external sales made to large outlets such as Synseal and Consort. The sales were made at the point of distribution to branch locations. In March 2004 the position changed. From that time until January 2005, Eurocell Plastics carried out the assembly operation but continued to buy roof sheet from

Eurocell Profiles. As part of the implementation of that change, all of the existing stock of assembled Pinnacle 500 was sold by Eurocell Profiles to Eurocell Plastics. I should add for completeness that, in January 2005, the position changed again and the roof sheet extrusion was thereafter purchased from an external supplier called Rotamould.

69. In early 2004 Eurocell also changed its computer system from "Opera" to "SAP". In setting up the inter company transfer on SAP, prices for all products were calculated. The prices for roof sheet (with CRS codes) sold and supplied by Eurocell Profiles to Eurocell Plastics were initially calculated on a cost basis. This price gave no allowance for overhead recovery or a profit margin for the extrusion operation and so a price adjustment was made to bring it into line with the transfer price used prior to the introduction of SAP. This price adjustment was effected by raising three large invoices. They were not, however, raised in relation to the CRS products as they should have been. Instead, they were raised using PPP codes appropriate for the complete roof assembly packs. Moreover, quantities of product were added to the invoices even though Eurocell maintain that such product was not supplied.

70. Returning to the sales ledger (K2/48), this had the effect, so Mr Beasley explained, of artificially inflating the PPP coded figures for the supply of complete roof assembly packs by a figure of in excess of 43,000 SQM. It also had the effect of leaving the sales price paid by Eurocell Plastics for the CRS products artificially low.

71. The explanation provided by Mr Beasley was considered by Mr Davies of AlixPartners before the resumed hearing. He pointed out in an e-mail to Mr Beasley dated 12 April 2006 that, once corrected in the manner suggested by Beasley, the price of the PPP products seemed extremely high. Mr Beasley did not respond to this communication.

72. Mr Beasley was asked in cross examination why he had failed to do so and much was made of this by Ultraframe in closing. Mr Beasley's explanation was that at the time he was busy drafting his last witness statement. I have reached the conclusion that this was not unreasonable, when seen in context. After the adjournment a meeting took place on 31 March 2006 at the premises of Eurocell. Mr Hall and Mr Davies were given all the information they requested. A long stream of enquiries from Mr Davies followed, which Mr Beasley responded to promptly. It was only the final e-mail, the 11th overall, sent at the end of the day on 12 April, that he failed to answer. In the meantime Ultraframe's solicitors had been pressing Mr Beasley for a witness statement. They repeated this request on Thursday 13 April, immediately before the Easter weekend. The witness statement was duly prepared and served on Wednesday 19 April. Mr Beasley was on holiday from Friday 21 April until Monday 24 April. He got down to dealing with the e mail on Tuesday 25 April and was cross examined the following day.

73. When asked about the apparently high prices for the PPP products, Mr Beasley proffered the following explanation. It seemed that in June, September and December 2004 credit notes were issued which, when taken into account, result in an adjustment in the price to about £20 per SQM. Some of those credit notes were produced in court. However, it is right to note that, on Mr Beasley's evidence, they too are inaccurate because they record incorrect volumes.

74. In summary, as Ultraframe submitted, a whole series of errors have been made. First, the CRS products were incorrectly priced on the SAP system. Second, three large invoices were issued to rectify this error. But these invoices wrongly used the PPP codes. Third, instead of simply issuing invoices to effect the price correction, volumes were added to the PPP transactions. Fourth, when the figures are corrected, this produces prices for the PPP products which are too high and these are only reduced by taking into account credit notes which were issued in the wrong volumes. Ultraframe contends that this catalogue of errors is so extensive and so improbable that the only possible conclusion is that 102,500 SQM of roof panels were indeed made and supplied by Eurocell Profiles to Eurocell Plastics in 2004 and then sold on to customers.

75. Clearly the internal accounting system at Eurocell was, at best, far from satisfactory. Indeed, I think it fair to describe it as chaotic. However it also important to note the following. First, all the transactions to which I have referred were internal. In particular, I did not understand it to be maintained that the CRS codes represented undisclosed external sales. Second, it was not suggested that the invoices or credit notes to which I have referred were fictitious and created for the purposes of these proceedings. They were actually created in the course of Eurocell's business.

Packaging scrap

76. Ultraframe points to a gap between the volume of roof sheet produced according to the production records and the volume sold according to the sales records. It says that the difference cannot be accounted for by scrap and that it represents undisclosed sales.

77. During the course of the hearing the issue of scrap rates was raised and Eurocell produced a document entitled "Roofsheet Yield" (E1/3) created by Mr Leng, the Managing Director of Eurocell Profiles. It relates to 2004 and, on the face of it, shows production, over a 10 month period, of 140,000 metres, corresponding to 70,000 SQM (because the strip is 0.5 metres wide), of satisfactory product described as "good production". It had a weight of 392 tonnes. The document suggests that "production scrap" and "warehouse scrap" have both been taken into account. When grossed up for a year it produces a figure of nearly 83,000 SQM whereas Eurocell have only disclosed sales of some 49,000 SQM for that period.

78. Mr Beasley was questioned about this document. His initial evidence was that warehouse scrap included packing scrap, that is to say all the scrap and wastage incurred up to and including getting the product into boxes and ready for despatch.

79. Mr Beasley was then taken to a document (E2/S) that he had produced to attempt to reconcile the quantity of product extruded or bought in from Rotamould with the quantity of product sold. He was cross examined as to whether this was a proper or accurate reconciliation.

80. There is no doubt that, if correct, that reconciliation means that Eurocell suffered a very high level of scrap indeed. Mr Beasley accepted that it was over 50% and Ultraframe estimate it at 65%. Mr Beasley explained that Eurocell had a great deal of problems with scrap and this was one of the reasons which ultimately led to the decision to buy in the extrusion from Rotamould. He supported this by reference to

two particular facts. The first was that in 2004 Eurocell granulated (a way of disposing of scrap) nearly 50% of the plastic they had bought that year. Secondly, in that same year Eurocell Profiles made a loss of £375,000 on its extrusion business whereas in 2003 it had made a profit of £285,000. That represented a worsening of £660,000 which, at an average price of £22 per square metre, equated to about 30,000 SQM of lost production.

81. Mr Beasley was also cross examined about the figures for scrap included in the reconciliation document and the fact that it apparently included an element of double counting of, in particular, "warehouse scrap". The point is somewhat complicated but can be summarised as follows. Despite his initial evidence as to the way Mr Leng had assembled his figures, Mr Beasley explained that he believed that Mr Leng had fallen into error. Mr Leng evidently believed that the good production was the net figure after deduction of all production and warehouse scrap. Mr Beasley went back to the production records, and these show that the figures given by Mr Leng for good production actually relate to the product of the extruder. As such they had taken into account production scrap but not any other scrap incurred downstream including, in particular, warehouse scrap. I have to say the way this evidence came out was almost guaranteed to cause confusion and suspicion. However, having heard Mr Beasley and considered the documents I do not feel able to reject his explanation.

Synseal

82. The fourth limb of the attack relates to Synseal. As I have already mentioned, Eurocell supplied Synseal with Pinnacle 500 at a 45% discount. This enabled Synseal to offer Lo Pitch at a price 13% below Eurocell's list price. But curiously Synseal only appear to have made sales of around 1300 roofs over three years. The agreement between Synseal and Eurocell was negotiated by Mr Hartshorn, who is still employed by Eurocell but did not give evidence. In these circumstances Ultraframe says that there was more to the relationship with Synseal than has been disclosed and that it probably relates to additional sales or disposals of Pinnacle 500 or essential components for the product.

83. Mr Bateman was asked about Synseal but was able to provide little assistance. He had looked through the files but had not found any relevant documents. He appreciated that Synseal had been treated in a rather special way but had been unable to find any reason for it. He knew that Mr Hartshorn had negotiated the agreement with Synseal but had not asked him why he had reached the agreement he did. His reason for not asking was that it represented a very small part of the business and "was not high on his radar". Some further assistance was provided by Mr Beasley. He explained that he did know why the price was set as it was. Mr Hartshorn based the price on the internal price between Eurocell Profiles and Eurocell Plastics. It was effectively treated as an internal transaction by Mr Hartshorn and his justification was that it was marginal business and volume so it could be done at a marginal price.

84. Overall I have been left with the impression that I have a less than complete picture as to how Synseal came to secure the benefit of such favourable terms. However, I am not satisfied that it is appropriate to draw the inference that Eurocell have deliberately hidden sales and supplies made to Synseal. Indeed the circumstances of the relationship seem calculated to attract attention rather than to hide. Nevertheless, it is a matter which I take into account in reaching my conclusion below.

Matters relied upon by Eurocell

85. Against these matters I must also consider the following. First, Eurocell have disclosed the sales ledger for the whole of their business. This gives details of all external sales, including each customer, the quantity sold and the value. Accordingly, the theory that Eurocell have failed to disclose sales of Pinnacle 500 involves the suggestion that sales have been disguised under some different code. I did not understand it to be submitted that Eurocell have received more revenues than are shown in the ledger, but rather that additional volumes of Pinnacle 500 were sold and supplied. It is not a theory which was advanced by Mr Hall.

86. Secondly, BDO interrogated the Opera and SAP accounting systems. They copied the resulting information into an Excel spreadsheet, listing every sale of a Pinnacle 500 product in date order. This analysis revealed that a total of 135,400 SQM of Pinnacle 500 were sold.

87. Thirdly, Mr Beasley explained in his sixth witness statement that he had reconciled the total sales value for Pinnacle 500 with Eurocell's management accounts. These were used to produce the statutory accounts, which were audited by KPMG and filed at Companies House. Mr Beasley was not challenged on this evidence.

88. Fourthly, KPMG were asked to consider and advise upon the accuracy of the sales figures for the Pinnacle 500 product extracted by Eurocell. For this purpose KPMG verified the accuracy of the extraction of sales volume data for the Pinnacle 500 product from the accounting systems and performed a reconciliation in broad terms of those figures to the turnover figures in the statutory accounts. On that basis they verified the sales volumes and values of the Pinnacle 500 product disclosed.

89. Fifthly, Mr Hall suggested a useful cross check would be to reconcile the sales figures with the purchase and supply of three externally sourced components which are essential to the Pinnacle 500 roof packs, namely (a) rafter bar, (b) gable rafter and (c) eaves closures. This exercise was carried out as Mr Beasley explained in his sixth witness statement. The result was supplied to Mr Hall. Mr Beasley was not cross examined on this evidence and Mr Hall did not comment on the reconciliation.

90. Sixthly, it is also relevant to have in mind that this conspiracy to conceal sales is alleged to have taken place at a time when I have no evidence to suggest that Eurocell believed that the Pinnacle 500 product infringed Ultraframe's patent rights. In this regard it is to be remembered that it was in 2004 that Lewison J held the patent valid but not infringed and capped the damages for design right infringement. It was only after the decision of the Court of Appeal in June 2005 that Eurocell knew they were liable for patent infringement.

Conclusion on quantities

91. I can well understand that the way the evidence has unfolded and the unsatisfactory nature of the internal accounting have given Ultraframe cause for deep suspicion. I have also formed the view that the approach adopted by Mr Beasley and Eurocell in dealing with the matters raised has been less than satisfactory. In my judgment Mr Beasley has, at times, been too casual in his approach and has offered explanations without taking adequate steps to ensure they are correct and do not need qualification.

Further, even now there is no satisfactory explanation which explains all the figures before me. Nevertheless, I do not accept that Mr Beasley was a dishonest witness. Moreover, it seems to me that greater weight should be attached to the records of the external sales and supplies than to the irregularities associated with the internal accounting between Eurocell Profiles and Eurocell Plastics. The six matters I have referred to above are, to my mind, powerful indicators that the sales figures disclosed are correct. In the light of all the evidence I am not persuaded that Eurocell have engaged in a conspiracy to hide sales. Doing the best I can on all the materials before me I have reached the conclusion that Eurocell have only sold and supplied the 135,000 SQM disclosed.

Issue A2: What proportion of Eurocell's sales would Ultraframe have made?

92. As I have indicated, there is a preliminary issue here. Ultraframe say that had it not been for the infringement Eurocell would have continued to distribute Ultralite 500. Eurocell dispute that is a correct approach. They say that just as it is not permissible for an unsuccessful defendant to say that he could have avoided infringement by selling a non infringing device, so also it is not permissible for a claimant to say that had it not been for the infringement the defendant would have continued to distribute the patented product.

93. In my judgment the argument advanced by Eurocell confuses two different issues. The reason a defendant cannot evade liability by contending that he could have avoided infringement by selling a non infringing device is that the law is concerned with the provision of compensation for the carrying out of an unlawful act. The question to be determined is the extent of the damage sustained by the claimant by reason of the unlawful sale of the defendant's product: see, for example, Lord Macnaghten in *United Horse Shoe Nail Co Ltd v Stewart* (1888) 5 RPC 260 at 268. Accordingly, it is irrelevant that the defendant did not need to carry out the infringing activity in the first place. Once liability is established then the measure of damages is to be, so far as possible, that sum of money that will put the claimant in the same position as he would have been in if he had not sustained the wrong: *per* Lord Wilberforce in *General Tire v Firestone* [1976] RPC 197 at 212. If the effect of the infringement has been to divert sales of the patented product away from the claimant then he can claim the loss of profit on those sales. Here, it seems to me, the defendant is in no different a position to any third party. So, if the effect of the infringement has been that the claimant has not sold the patented product to the defendant then he can claim loss of profit on those sales too. But of course that must be shown on the evidence. It would be different if, for example, the relationship between the claimant and the defendant had broken down before the infringement such that the defendant would have ceased to buy the patented product in any event.

94. In the present case Eurocell submit that there is no evidence that they would have carried on selling the Ultralite 500 system had they not infringed. It is said there was no contractual obligation on them to do so and they could just as easily have decided to go out of the market.

95. I have reached the conclusion that this suggestion is totally unreal. Eurocell had a substantial business in Ultralite 500, amounting to approximately £2 million per year. They ceased buying from Ultraframe once they had developed a product which was for practical purposes the same as Ultralite 500 and a substitute for it. That new

product, Pinnacle 500, was designed to compete directly with Ultralite 500. This shows that Eurocell had no intention of abandoning the market or designing a different kind of product. I heard no evidence from Eurocell to suggest that they might have left the market altogether, save an acceptance by Mr Allen that there was a certain tension between Ultraframe and Eurocell once Eurocell launched their Pinnacle dual pitch product. To my mind this does not begin to raise any real doubt that Eurocell would have continued to distribute Ultralite 500 had it not been for the infringement. In all the circumstances I reject the submission of Eurocell and conclude that, but for the infringement, Eurocell would have continued to buy and distribute Ultralite 500.

96. I must next consider what proportion of the infringing sales Ultraframe would have made.

97. Ultraframe contends that every sale of Pinnacle 500 is a lost sale of Ultralite 500 because Pinnacle 500 was designed to compete directly with Ultralite 500 and was a virtually identical product. Eurocell simply replaced Ultralite 500 with Pinnacle 500 and then sold it in the same way through the same sales channels at a reduced price. They competed vigorously with all trade channels used by Ultraframe and took sales off Ultraframe and Ultraframe's other distributors, as was their intention. In all the circumstances I was invited to accept the proposition that all sales by Eurocell represent lost sales by Ultraframe.

98. Eurocell say this argument is too simplistic and ignores a number of important factors. First, it is evident that the market was a dynamic one. There is no doubt on the evidence that customers buy different products from various different competitors over time. Thus almost half the customer base for Ultralite 500 was lost between 1999 and 2005. This shows that there is only a degree of customer loyalty. I accept this as a proposition and it is one of the factors to keep in mind in addressing the further points advanced.

99. Secondly, it said that Ultraframe's argument ignores the fact that the market was in decline, that there were other competing products available in the low pitch market, such as the Everlite and L2 product from K2, and also low price Victorian conservatories from the wider conservatory market. Eurocell say that they succeeded in this difficult market situation by selling at a price some 10% lower than the price charged by Ultraframe. This is an issue which I discuss further in considering the issue of price depression. But it is a factor which indicates that had Eurocell simply carried on selling Ultralite 500 they would not have achieved the same number of sales of Pinnacle 500 which they did and accordingly it cannot be said that this is a case of one-for-one replacement of sales.

100. Thirdly, it is said that it is relevant to consider what has happened since the grant of the injunction in July 2005. At that point Eurocell ceased selling Pinnacle 500 and effectively withdrew from the market. But there has been no corresponding increase in sales of Ultralite 500 by Ultraframe. This, it is contended, shows that it is not a case where it can be said that all sales of Pinnacle 500 have been at the expense of sales of Ultralite 500. Again, I believe that this point also has some force and is another factor I must take into consideration.

101. Mr Hall split the Pinnacle 500 sales into three categories:

i) Pinnacle 500 sales made to customers who had previously bought Ultralite 500 from Eurocell;

ii) Pinnacle 500 sales made to customers who had previously bought Ultralite 500 from Ultraframe; and

iii) Pinnacle 500 sales to customers not in either of the categories above, that is to say new customers.

102. He calculated that during the infringing period sales by Eurocell of Pinnacle 500 could be broken down as follows: 66,592 SQM to customers in category i); 16,457 SQM to customers in category ii) and the remaining 52,354 SQM to customers in category iii).

103. As to category ii), Mr Hall explained that there were 61 of these customers and that sales to them by Ultraframe dropped substantially during the infringing period. Many stopped buying altogether and those that did not bought at a reduced net price. The inference to be drawn from this is that, but for the infringement, they would have continued to purchase Ultralite 500 from Ultraframe.

104. As to category iii), Mr Hall expressed the view that these were also all sales which Ultraframe would have made but for the infringement, either directly or through Eurocell.

105. Mr Plaha estimated Pinnacle 500 sales at 44,439 SQM to customers in category i); 5,481 SQM to customers in category ii) and 84,341 SQM to customers in category iii).

106. Mr Plaha accepted, in the end, that Ultraframe would have made all the sales falling in categories i) and ii) but only a proportion of those in category iii). As to this latter category, he assumed that only a proportion (some 60%) represent lost Ultralite 500 sales based upon an adjusted market share estimate. He arrived at a total figure for lost sales of 100,637 SQM. Thus the difference between the experts is only some 34,000 SQM.

107. This difference can be explained by reference to the following points. As to category i), the difference depended in large part on whether or not cash accounts could properly be regarded as "existing customers" and as to the appropriate period prior to infringement in which to identify customers who had previously purchased Ultralite 500 from Eurocell. Mr Plaha took the view that cash accounts could largely not be regarded as repeat customers, whereas Mr Hall took the view they could. Similarly, in identifying Pinnacle 500 customers who had previously purchased Ultralite 500 from Eurocell, Mr Plaha only considered sales of Ultralite 500 made in the year to June 2002, whereas Mr Hall considered sales in the two year period prior to June 2002.

108. So also, in arriving at the 60%, Mr Plaha made a deduction of 10% to account for errors in the market data. However, as Mr Hall pointed out, the market data could equally well be 10% understated as overstated. Further, Mr Plaha made a deduction of a further 20% to take into account a number of other factors, such as the level of competition in the market place.

109. To my mind all of these points illustrate the inherently difficult and uncertain nature of the exercise both experts were seeking to perform. At the end of the day I have to make an assessment based upon my impressions of the evidence as a whole. Doing the best I can on the materials before me I have reached the conclusion that a reasonable split of the sales of Pinnacle 500 between each of the three categories falls somewhere between the two positions taken by the experts and is as follows:

i) Category i): 56,700 (42% of 135,000)

ii) Category ii): 10,800 (8% of 135,000)

iii) Category iii): 67,700 (50% of 135,000)

110. As to the proportion of these that represent lost sales, I will adopt the same position as the experts in relation to categories i) and ii) and assume that these all represent lost sales. As to category iii) I consider that a larger percentage of these would have been made by Ultraframe than Mr Plaha has allowed and estimate the figure at 52,500 (or just under 80% of the sales in category iii). Overall therefore I estimate that 120,000 SQM of the sales of Pinnacle 500 represent lost sales of Ultralite 500.

111. These lost sales should be distributed over the years of infringement in the light of the actual sales of Pinnacle 500 (taken from Table 4.1 of Hall 1, but adjusted in the light of my conclusion that 135,000 SQM of Pinnacle 500 were sold). I estimate lost sales for each year (to 30 September, 2002 to 2004, and to 30 June 2005) to be: Yr 02: 5,900; Yr 03: 42,200; Yr 04: 43,300; Yr 05: 28,600.

112. I must now apportion these between each of the three categories. Inevitably I can only make an approximation. Doing the best I can using the trends detectable from the materials before me I arrive at the following:

Lost sales (SQM)	**2002**	**2003**	**2004**	**2005**	**Total**
Eurocell customers	4,500	25,300	18,700	8,200	56,700
Ultraframe customers	300	2,500	4,800	3,200	10,800
Other customers	1,100	14,400	19,800	17,200	52,500
Total	5,900	42,200	43,300	28,600	120,000

Issue A3: Would all the lost sales have been made through Eurocell (at the appropriate discounted net price)?

113. This is a point which is potentially of some significance. Ultraframe argues that the actual price received by Ultraframe would have depended upon the customers to which it made the sales. Eurocell was a high volume and high discount customer. Lower volume customers and stockists did not receive the same level of discount with the result that Ultraframe's profit on such sales was greater.

114. Further, Ultraframe contends that only a proportion of the lost sales would have been made through Eurocell and the rest would have been made to other customers. For this purpose it refers to the three categories of lost sales identified by Mr Hall. It contends that it would have made sales in category i) to Eurocell and sales in category ii) to customers other than Eurocell. As for category iii), it contends that these should be apportioned and that the margin on these should be weighted according to Eurocell's share of Ultraframe's Ultralite 500 sales prior to the infringing period (that is to say, 85.24% (customers excluding Eurocell) - 14.76% (Eurocell)).

115. Eurocell contend that all the lost sales would have been made through Eurocell and that it is therefore appropriate to take into account the discounted net price at which Ultralite 500 was sold to Eurocell in calculating the loss of profit. They also argue that there is nothing in the point anyway because although the price Ultraframe received was less when it sold to a high volume distributor it saved money on other overheads. This is a point I consider in more detail later in this judgment.

116. In my judgment the submission advanced by Ultraframe is essentially correct in that it is appropriate to address the issue by reference to each of the categories of customer. Ultraframe accepts that sales in category i) would have been made to Eurocell. As for the other categories it seems to me that, just as Eurocell acquired customers who would not have purchased either Pinnacle 500 or Ultralite 500 but for their aggressive pricing policy, so also they must have acquired customers for Pinnacle 500 who would otherwise have bought Ultralite 500 from one of Ultraframe's other distributors. Therefore I think it is a reasonable approximation to say that Ultraframe would have made the sales in category ii) to customers other than Eurocell. As to category iii), it seems to me to be unduly favourable to Ultraframe to distribute these in accordance with Eurocell's share of Ultraframe's Ultralite 500 sales prior to the infringing period (that is to say, 85.24% - 14.76%). A significant reason for my finding that Ultraframe would have made so many sales in category iii) was my acceptance of Ultraframe's submission that, but for the infringement, Eurocell would have continued to distribute Ultralite 500. In all the circumstances I estimate that 50% of the sales in category iii) would have been made to Eurocell and 50% to other customers.

Issue A4: What net price per SQM would have been achieved on the lost sales of Ultralite 500 products?

117. At the outset it is convenient to make some general observations. First, and for the reasons I have given, I consider that, but for the infringement, Ultraframe would have made a proportion of the lost sales through Eurocell and a proportion to other customers. Secondly, it is wrong to base any calculation of Ultraframe's lost profit upon the prices it achieved in the face of the competition from Pinnacle 500. Thirdly,

it is therefore necessary to consider the price that Ultraframe would have achieved had there been no infringement. This last and important question raised a number of hotly disputed issues between the parties. In particular:

i) Would Ultraframe have increased its prices in 2003 but for the infringement and, if so, by how much?

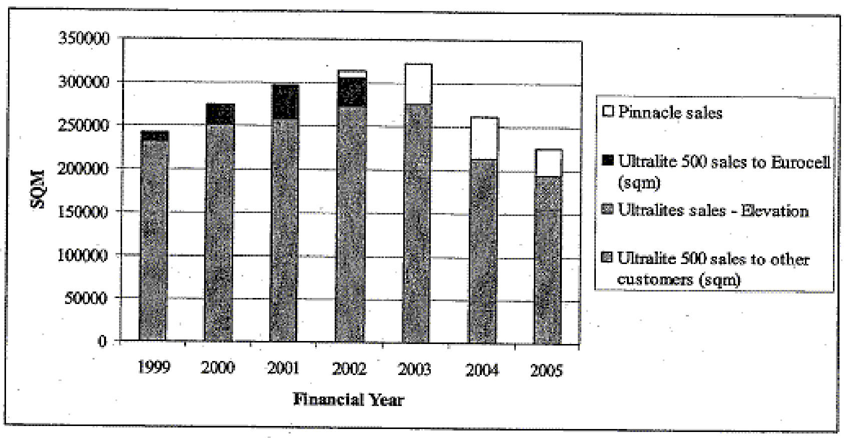
ii) Did the infringement cause price depression and, if so, by how much?

iii) If Ultraframe had put up its prices in 2003 would this have had an effect on the number of sales it would have made but for the infringement?

118. As I have explained, Pinnacle 500 was launched in 2002 at a price about 10% less than that of Ultralite 500. Mr Allen gave evidence on behalf of Ultraframe that the presence on the market of Pinnacle 500 had a serious and detrimental impact on its pricing plans. He explained that in 2003 Ultraframe increased the price of all its products save for Ultralite 500 by between 2-5%. He said that, had it not been for Pinnacle 500, Ultraframe would have applied a similar price rise to Ultralite 500. Instead, and because of Eurocell's infringing activity, the net price of Ultralite 500 was gradually reduced over the period of infringement in an attempt to retain Ultraframe's market share.

119. Ultraframe support this argument by pointing to the fact that the market was growing in 2003, as illustrated by the following graph (taken from the updated Fig.4.2 of exhibit MH1):

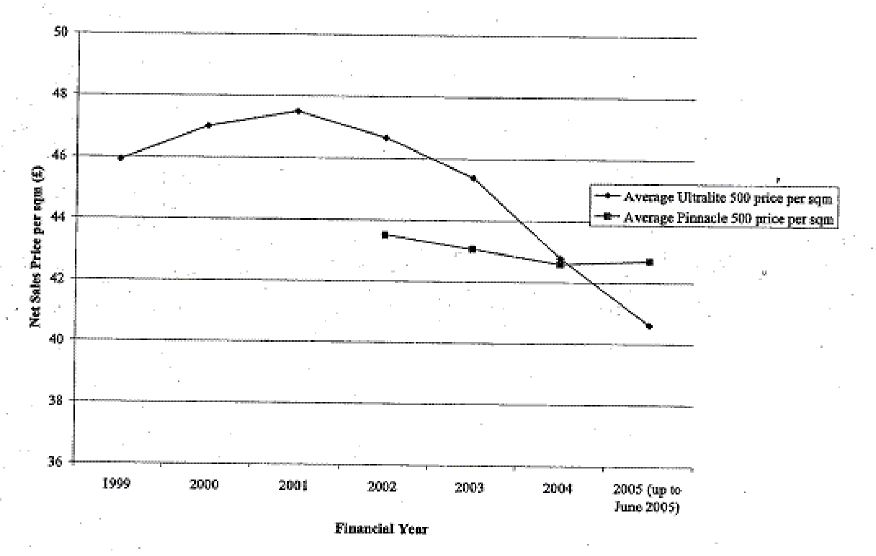
Fig 4.2 from MH1: Combined sales of Ultralite 500 and Pinnacle 500 (updated to include Elevation) – years to September



120. In the light of this growth in the market Ultraframe submit there is no reason why it would not have increased its price of Ultralite 500 in line with its other products. Moreover, a price rise at the top end of the range (that is to say 5%) would have been supportable. It also points to the fact that Eurocell evidently thought the market was sufficiently strong to incur the costs of developing a copy product.

121. However, instead of being able to increase its prices, Ultraframe was forced to reduce them to meet the competition posed by Pinnacle 500 and the same product sold by Synseal under the name Lo Pitch. This gradual reduction in price is illustrated below:

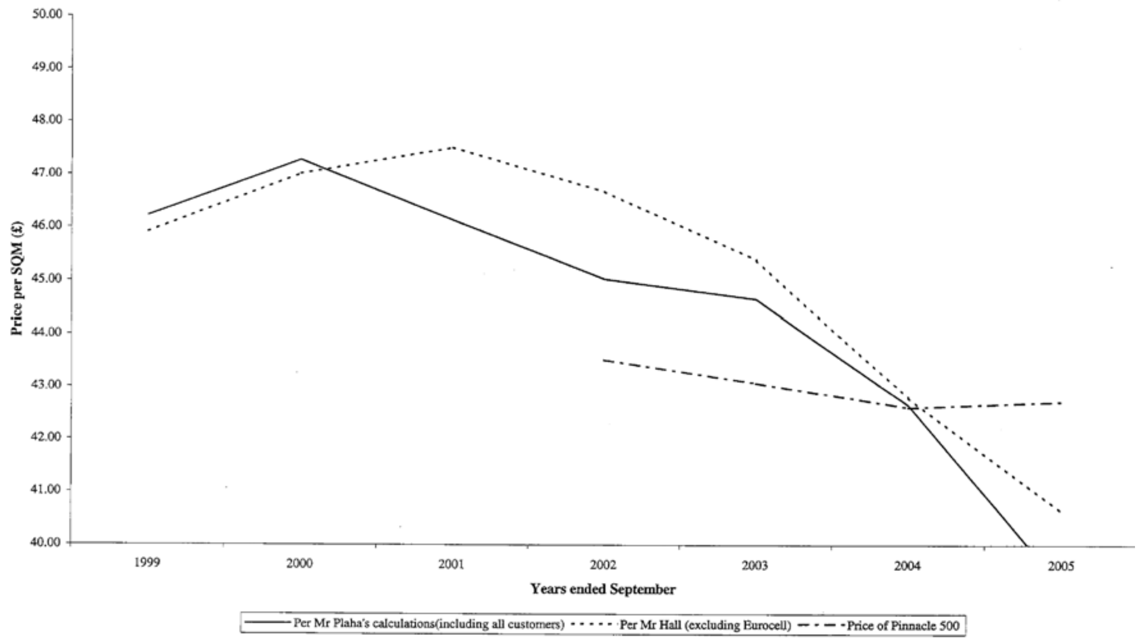
Fig 5.1 from MH1: Comparison of Ultralite 500 and Pinnacle 500 average net sales price (updated for rebates) excluding Eurocell



122. Ultraframe submit that this graph dramatically illustrates the impact of the infringement upon the price of Ultralite 500. Absent Pinnacle 500, Ultraframe would have been the controlling party in the market and able to determine prices. Pinnacle 500 was targeted directly at Ultralite 500 but sold at a substantial discount. This required Ultraframe to reduce its prices to retain its market share. As Mr Allen explained, Ultraframe was obliged to offer customers price concessions to ensure that it did not lose further business. The suggestion that there was pressure on the market is belied by the fact that the net price of Pinnacle 500 remained constant.

123. Eurocell submit that Ultraframe has painted only half of the picture. First, whilst it is true to say that volumes of sales increased (taking into account sales to Eurocell) in the years to September 2003 the net price that Ultraframe was receiving on the same basis (that is to say *including* sales to Eurocell) decreased in the years to 2001 and 2002 reflecting the fact that Ultraframe was indeed increasing its volumes of sales but that the degree of discount offered to Eurocell meant that, overall, its net sales price was falling as shown by the graph below (taken from SP1:8.12):

Price of Ultralite 500 including rebates: Source SP1:8.12



124. Secondly, Ultraframe did increase its list prices for other products by 2-5%. However, that did not mean that the net price received by Ultraframe, taking into account discounts and rebates, increased by the same amount, if at all. Indeed it seems that over the period between 2002 and 2005 Ultraframe lost some 40% of its turnover. I was provided with no information as to the net prices achieved over this period and it is quite possible they were reduced in an attempt to preserve the shrinking market.

125. Thirdly, it is apparent from fig 4.2 of MH1 (at [119] above) that there was very little movement in the combined sales of Ultralite 500, Elevation and Pinnacle 500 in the year to September 2003 but a marked overall decline in each of the two years thereafter. This clearly shows that there was pressure on the low pitch market.

126. I consider that these materials and rival submissions are best considered year by year.

127. In the year to September 2001, the average net sales price to all customers excluding Eurocell rose slightly (see fig. 5.1 from MH1 at [121] above). In the same period the net price to all customers including Eurocell fell slightly (see fig. SP1:8.12 at [123] above). But at the same time the volume of sales to all customers excluding Eurocell stayed approximately the same whilst sales to Eurocell increased significantly (see fig. 4.2 from MH1). This suggests that the decrease in the net sales price shown in fig. SP1:8.12 is attributable to the increased discount offered to Eurocell on its increasing sales volume rather than due to any competitive pressures on the market.

128. In the year to September 2002, Pinnacle 500 was introduced although relatively few sales of Pinnacle 500 had been made by the end of the year. Combined sales of Ultralite 500 and Pinnacle 500 showed a slight increase over the previous year. To my

mind it is, however, significant that the average net sales price achieved for Ultralite 500 began to fall. This suggests that in 2002 Ultralite 500 was beginning to experience the effects of the competition referred to in the Capex document. Specifically that document recorded that sales of Ultralite 500 grew strongly until 2002 at which point they began to decline. As I have related, it attributed that decline to a number of causes including competition from more widely available and cheaper lean-to products and Victorian dual pitch conservatories.

129. The year to September 2003 shows much the same picture. Combined sales of Ultralite 500 and Pinnacle 500 again grew and it is notable that the volume of Pinnacle 500 sales appears be very similar to the volume of Ultralite 500 sold by Eurocell the previous year. At the same time, however, the average net price for Ultralite 500 once again fell. This is again consistent with the contents of the Capex document. I have no doubt that one of the factors leading to the reduction in price of Ultralite 500 was the presence on the market of Pinnacle 500 at a price some 10% lower than that of Ultralite 500. But the price reduction was also a reflection of the other competitive pressures on the market.

130. The years to September 2004 and September 2005 again show a steady reduction in the net price achieved for Ultralite 500. However, they also show a significant change in that the combined sales of Ultralite 500 and Pinnacle 500 (together with Elevation in 2005) have suffered a marked decline. This is once again a strong indication that the products were suffering from the pressures on the market referred to in the Capex document.

131. The existence of the competitive pressures referred to in the Capex document is also supported by other evidence. First, the fall in the net price received by Ultraframe for Ultralite 500 in 2002 occurred despite the fact that the list price was increased by in excess of 3%.

132. Secondly, I was provided with documents by Mr Richardson showing that Ayrshire Agencies, one of Scotland's largest roof fabricators, switched from Ultraframe to Synseal's Global product in 2004 because of the prices it was being charged. This is confirmation of what one would expect, namely that in this market there is a relationship between price and sales volume.

133. Thirdly, it is material that Ultraframe has apparently not been able to increase its prices since July 2005 when the infringement ceased. This again suggests that Ultralite 500 and Elevation are suffering from continuing competition. In particular, it is notable that K2 held approximately 13% of the low pitch market by September 2005 (and indeed generally over the period of infringement) – a share which was about the same as that held by Pinnacle 500.

134. I must also take into account the fact that Ultraframe intended to reduce the price of Ultralite 500 as part of the introduction of Elevation in 2004. I believe that it is right to do so because, as I shall explain, I am not satisfied that Ultraframe is entitled to claim from Eurocell the costs incurred in connection with the launch of Elevation or that the introduction of Elevation is properly attributable to the presence on the market of Pinnacle 500.

135. In the light of these matters I do not consider that Ultraframe has established that, but for the infringement, it would have been able to increase its average net price in the year to September 2003. I believe that the market conditions were such that it is much more likely that its net price would have fallen slightly below that of the previous year. Had it increased its prices then I believe that would have been reflected in a loss of sales volume.

136. As regards the price reduction thereafter, I believe that this was caused in part by the market pressures referred to in the Capex document and in part by the aggressive pricing of Pinnacle 500. The presence of Pinnacle 500, targeted as it was directly at Ultralite 500 by a former major distributor, was one of the factors which drove the price down. Absent the infringement I do not believe that the price of Ultralite 500 would have fallen so far or so fast.

137. Again, as Mr Plaha accepted, I can do no better than make an estimate of the likely net prices over the period of infringement taking account of the various factors to which I have referred. In all the circumstances I have reached the conclusion that, but for the infringement, the average net price (taking into account rebates) for customers excluding Eurocell would have been (£/SQM): FY02: 46.67; FY03: 46; FY04: 45; FY05: 44. These figures therefore represent the average net price that Ultraframe would have achieved on lost sales to customers other than Eurocell (Hall category ii)).

138. From these figures, and by applying the appropriate volume discounts (which I understand to be about £4.50 per SQM), the net price that would have been achieved on lost sales to Eurocell can be determined (Hall category i)). Further, on the findings I have made in relation to issue A3 above, the average net price for lost sales to other customers (Hall category iii)) can be determined by taking the average of the other two net prices.

Issue A5: What costs need to be deducted from the net price to calculate the margin?

139. There was no dispute between the parties as to the correct approach to be adopted. The additional variable costs incurred in making the lost sales must be taken into account in assessing the lost profit. However Eurocell say that Ultraframe has adopted a simplistic approach to the profit margins and has made no real attempt to identify all the costs that would accompany an increase in turnover. In particular, Eurocell say that adjusting correctly for distribution, warehousing and packaging makes a substantial difference to the overall figures claimed. Further, adjusting correctly for tooling depreciation makes a further difference of almost 1% of the selling price.

140. In broad terms Eurocell contend that the management accounts on which Ultraframe relies do not show all the variable costs which would have been incurred had the additional sales been made and that they do not comply with the widely accepted Statement of Standard Accounting Practice 9 (“SSAP9”). They recognise that in the nature of things it is not possible to come up with a precise figure for the variable costs and that short of doing a detailed investigation of Ultraframe’s entire accounting system the best that can be done is to take a broad brush approach.

141. In considering these criticisms I must begin with the Ultraframe management accounts. These set out the material, labour and distribution costs actually incurred.

However they include costs for the whole family of Ultralite products. Accordingly, Mr Hall excluded all volumes and costs not related to Ultralite 500. He did so on the basis of materials provided to him by Mr Wallis. I have no doubt that this was the correct approach in principle.

142. On the basis of the adjusted figures Mr Hall calculated the materials, labour and distribution costs incurred per SQM of Ultralite 500 for each of the years 2002 to 2005. Material costs were by far the largest, followed by labour and then distribution. The cumulative totals for each year were (£/SQM): FY02: 30.48; FY03: 27.86; FY04: 27.22; FY05: 29.22. It will be seen that these are relatively consistent as a result of a steady fall in the costs of materials which was matched by a gradually increasing cost of labour and distribution. They average at £28.7/SQM.

143. Distribution costs were about 4.3%. Eurocell contend that these should be adjusted upwards for two reasons. First, Ultraframe's overheads were likely to be similar to those of Eurocell and they were higher; second, that the Supply Chain Council has produced a document suggesting that distribution costs are, for consumer packaged goods, generally much higher. The latter point was abandoned in cross examination. As to the former, it seems to me that there is an inherent difficulty in comparing costs incurred in two separate businesses unless it is shown that they are conducted in substantially the same way. Further, the incremental costs in making more deliveries may depend, for example, upon the extent to which lorries are generally filled. Mr Wallis explained that the relevant cost drivers for Ultraframe are the number of deliveries and miles covered. Further, Ultraframe's average trailer fill is only about 34% suggesting considerable additional capacity. Nevertheless, I accept that one point which Mr Wallis drew attention to in cross examination, namely that Eurocell distribute to 50 branches whereas Ultraframe distributes to hundreds of customers with thousands of deliveries, would suggest that Ultraframe's distribution costs should be higher than those of Eurocell when in fact they are substantially lower.

144. Eurocell also suggested that additional warehousing and packaging costs would be incurred in making the additional sales. As to warehousing, these were not included because Mr Hall took the view that these costs were fixed and would not vary with an increase in sales. In my judgment he was right to do so. Mr Wallis explained that warehousing costs had not altered with the reduction in sales of Ultralite 500. The warehouse facility was still available and could have been used for the storage of addition product without incurring additional warehousing overheads. It is also right to note that the management accounts do not comply with the standard SSAP9 in the way they deal with warehousing costs. I am prepared to accept that this is so, but it does not affect the issue I have to decide which is whether substantial additional warehousing costs would have been incurred in making the extra sales. On the evidence, I do not believe they would have been.

145. With regard to packaging costs, Mr Wallis explained that the labour costs associated with packaging are included within the labour costs in the management accounts. Further, the exercise of packaging is performed within the existing Ultralite 500 warehouse facility.

146. The final specific matter raised by Eurocell was tooling. It was pointed out that nothing has been included by way of tooling depreciation. I am not satisfied there is anything in this point. Ultraframe has not had to replace tooling used for Ultralite 500

and the evidence does not show that additional tooling costs would have been incurred as a result of making the additional sales.

147. That deals with the specific points made. I must, however, take into account some more general matters. Mr Beasley prepared a document (K2/26) from the Ultraframe accounts. This appears to show a substantial saving in indirect cost in the year 2005 over the year 2002, once inflation is taken into account. Mr Wallis explained aspects of this reduction and he also pointed out that it was far from clear that the allowance for inflation was accurate. I nevertheless gained the impression that at least a proportion of these costs have been saved as a result of the lower sales of Ultralite 500. Further, Eurocell made much of some evidence of Mr Allen in cross examination. He explained that Ultraframe was "neutral" as to whether Ultralite 500 was sold direct to an installer or through a distributor. Sales through a distributor produced less revenue but the margins achieved might be the same because of savings in overheads. He referred specifically to efficiencies in distribution and account management. In the light of this evidence Eurocell submit that it is wrong for Ultraframe to claim a greater margin on sales made to customers other than Eurocell. Clearly, it was said, there must be other costs associated with sales made to smaller outlets which Mr Hall's calculations did not take into account.

148. In the light of these points I have reached the conclusion that a small uplift should be applied to the figures calculated by Mr Hall. Since this is necessarily an imprecise exercise I think it appropriate to apply this uplift to the average cost figure of £28.7/SQM. I believe that an appropriate figure for costs for each of the years of infringement is £30/SQM.

Issue A6: What is the appropriate royalty on the assumption that not all sales of Pinnacle 500 are lost Ultralite 500 sales?

149. I have found that Eurocell sold 135,000 SQM of Pinnacle 500 and that 120,000 SQM represents lost sales of Ultralite 500. Ultraframe is therefore entitled to a royalty on the remaining 15,000 SQM.

150. Eurocell suggest a royalty rate of 5%. Ultraframe suggest it should be 15-17.5%.

151. It is fair to say that this is a mechanical patent type of case and that royalty rates for such patents are commonly about 5%. Further I think it relevant that not all the Pinnacle 500 products infringe – certain ancillary items do not. The non infringing items include such things as the white plastic firrings. Nevertheless Eurocell accept the royalty is to be calculated on them all.

152. There are, however, certain factors which point to a higher rate. The product was obviously the market leader and, before the infringement, unique. Looking at the profits available, Ultraframe says that a 50:50 split of gross profits would likely be agreed between a willing licensor and willing licensee bearing in mind the nature of the product and the market in issue. This, Mr Wallis says, would produce a rate of 15-17.7%.

153. I have reached the conclusion that a willing licensor and willing licensee would have agreed a figure closer to that contended for by Eurocell. It must be remembered that the royalty is only on sales that Ultraframe would not have made. Further, I think that

a 50:50 split of profits estimated at 35% is not realistic. Overall, I think a reasonable figure for the royalty is 8%.

Issue B: Reduction in net sales price – Price depression

154. In considering issue A4, I reached the conclusion that the presence and pricing of Pinnacle 500 was one of the causes of the price depression of Ultralite 500. Eurocell directly targeted Pinnacle 500 at Ultralite 500 from its position as a distributor. But for the infringement the price of Ultralite 500 in each of the years 2003-2005 would have been higher than it was. Ultraframe was obliged to reduce its prices to retain its market share. In the circumstances I believe that Ultraframe has suffered a loss on sales of Ultralite 500 which is recoverable from Eurocell. That loss was both foreseeable and caused by the infringement. It amounts to the difference between the price Ultraframe achieved on sales of Ultralite 500 and the price it would have achieved but for the infringement.

155. I have set out my best estimate of the prices that would have been achieved (including rebates) but for the infringement at [137] above. These need to be considered against the actual net prices (including rebates) actually achieved. I understand that these are set out as to price in Table 5.3 to Hall 1, and as to rebates in Table 3.8 to Hall 2. The difference must be applied to the sales figures set out in Table 6.5 to Hall 1.

Issue C: Loss of sales of other products

156. Ultraframe contends that that the infringement has caused the loss of sales of other products, specifically Ultraframe dual pitch products, in addition to the loss of sales of Ultralite 500. This is a major head of claim amounting to a total of some £1.9 million.

157. The original pleaded case was that Ultraframe lost established customers who switched suppliers as a result of Synseal being able to offer a competing low pitch roof system.

158. A rather expanded case is developed through the evidence of Mr Hall and in Ultraframe’s skeleton argument at trial. It is contended that sales of the infringing product have enabled Eurocell and Synseal to offer what appear to be their own complete ranges of conservatory roofs and thus supply customers not just with the infringing product but with other roofing products (such as dual pitch roofs) as well. Accordingly Ultraframe has lost sales of other products in addition to sales of Ultralite 500.

159. It is contended that of the 61 customers who purchased Pinnacle 500, 50 stopped buying Ultralite 500. At about the same time 45 of those 50 customers also stopped buying dual pitch roofs from Ultraframe. Three of those 45 were excluded: one became insolvent and two developed their own products. Losses amounting to some £1.9 million are claimed in respect of the remaining 42 customers.

160. The customers are said to fall into two categories. The first comprises 13 customers who switched from Ultralite 500 to Pinnacle 500 and also switched from Ultraframe to Eurocell for dual pitched roofs.

161. The second comprises 29 customers who switched from Ultralite 500 to Pinnacle 500 and at the same time ceased buying all products from Ultraframe, but did not buy these products from Eurocell.

162. Ultraframe contends that although precise calculation is difficult it was entirely foreseeable and intended by Eurocell not only that they would take Ultraframe customers for low pitch products but that by offering a complete range they would attract Ultraframe customers for dual pitch products and so cause Ultraframe damage.

163. Eurocell resist this claim at every stage. They say that it fails on the facts and in law. When the details of the claim are examined it can be seen that Ultraframe has not shown that the losses were caused by the infringement and any losses which have been suffered were not foreseeable.

164. The Ultraframe case is founded upon what it calls "two indisputable facts". First, it was part of Eurocell's plan that the launch of Pinnacle 500 would attract customers away from Ultraframe. I accept this as a general proposition. I have no doubt that in launching Pinnacle 500 Eurocell hoped and intended to take as much business as possible from Ultraframe and, in particular, to retain as much as possible of the business it had hitherto conducted as Ultraframe's distributor.

165. Secondly, it was part of Eurocell's plan that they would be able to present themselves as a one-stop-shop, a source of all conservatory roofs – not merely that they supplied them but that they were manufacturers of the complete range. It was suggested that I do not need to be concerned as to whether this made any difference to customers because Eurocell and Synseal asserted that it was a benefit to themselves and to customers. The extent to which customers availed themselves of that benefit is another matter.

166. Once again I accept that it was Eurocell's plan to become and promote themselves as a one-stop-shop. This is evident from the press release (G1/9) which refers to Pinnacle 500 helping Eurocell to achieve their "goal to become a one-stop-shop". It is also true that sales of the infringing product have enabled Eurocell and Synseal to offer what appear to be their own complete ranges of conservatory roofs. These are important aspects of the evidence but I do not accept they are an end of the matter. I must be satisfied on the evidence as a whole that the losses claimed were in fact caused by the infringement and were foreseeable. If in fact the one-stop-shop, such as it was, made no difference to customers then it cannot be said that the infringement has caused the loss of the dual pitch business. That requires a rather closer analysis of all the circumstances and the nature of the one-stop-shop that was being offered. Furthermore, as Mr Bateman explained, the one-stop-shop in relation to Pinnacle 500 must be seen in the context of the Eurocell business and the particular "shops" which it comprised. These matters also have a significant bearing on the question of foreseeabilty.

167. As regards the one-stop-shop, Mr Bateman explained in cross examination that this was something of a company wide philosophy at Eurocell. But it is important to appreciate that there were two aspects to the Eurocell conservatory business. One was the business conducted with fabricators who made and installed the Pinnacle dual pitch roofs. They were not interested in purchasing two different roofs from the same supplier. What they wanted was to be able to make a complete conservatory from the

same profile supplier. It was therefore an advantage to be able to supply, for example, both window profile and Pinnacle dual pitch roof profile. These fabricators would generally buy the product in bar lengths, that is to say 6 metre lengths of rafter bars and other necessary components, and fabricate the roofs themselves. The other side of the business was that conducted through the branch network. This is where the Pinnacle 500 was sold. Unlike the Pinnacle dual pitch which usually required fabrication, the Pinnacle 500 product came pre-packed in a box and simply required assembly and installation. It was certainly true that Eurocell hoped to sell other products and components to purchasers of Pinnacle 500 and in that sense provide a one-stop-shop in the branches. But these were not other roofs. Rather, they were the additional products and components such as guttering, window board and sealants that a good installer would use as he assembled and installed the Pinnacle 500 product. The two sides of the business had separate warehousing, transport and sales channels. Although some dual pitch Pinnacle product was sold through the branches it was mostly sold through the separate trade channels to fabricators.

168. Mr Allen was also cross examined on the subject. He accepted that Eurocell had always been a one-stop-shop in the sense that, prior to the infringement, they had sold Pinnacle dual pitch and Ultralite 500 but suggested that once they began to sell Pinnacle 500 they had an opportunity to brand both products as being made by the same extruders. As to the latter point, I do not feel able to attach any significant weight to it. It was not supported by any evidence that this was how Eurocell sold Pinnacle 500 or Pinnacle dual pitch, nor that this was a factor which influenced any customer to switch its business for dual pitch roofs away from Ultraframe. In the end I understood Mr Allen to say that he had no evidence to support the one-stop-shop theory other than that he believed customers would take their other business to Eurocell for convenience and service, and that this was his “feeling”.

169. One customer specifically identified in the Points of Claim and in the evidence of Mr Richardson was Ayrshire Agencies. It was said that Ultraframe lost the dual pitch business of Ayrshire to Synseal because it was able to offer a competing low pitch roofing system. In fact, however, Ayrshire went to Synseal for its dual pitch roofs but to Eurocell for its low pitch roofs. This does not, to my mind, support the position taken by Mr Allen. Moreover, the press releases relating to Ayrshire produced by Mr Richardson suggest that Ayrshire switched to Synseal for the dual pitch Global product because it was cheaper. Ayrshire had found that its prices for Ultraframe’s dual pitch were not competitive with the result that its sales were falling.

170. I must now address the two categories of customer relied on by Ultraframe and will begin by considering the 13 customers who purchased Pinnacle 500 and Pinnacle from Eurocell.

171. Mr Plaha considered these customers and found that 99% of the loss of profit on other products for these 13 customers relates to just four customers: Droylsden Glass, First Class Conservatories, Paragon Profiles and Roundbrand. They account for a claimed loss of £1,019,454 out of a total of £1,031,374 in this category.

172. The two largest components of the loss are made up of sales to Roundbrand and Droylsden. Damages in excess of £496,000 are claimed on sales to Roundbrand of £903,157. Its average annual dual pitched roof purchases from Eurocell amounted to £301,000. Yet Roundbrand only purchased £11,000 of Ultralite 500 in the year prior

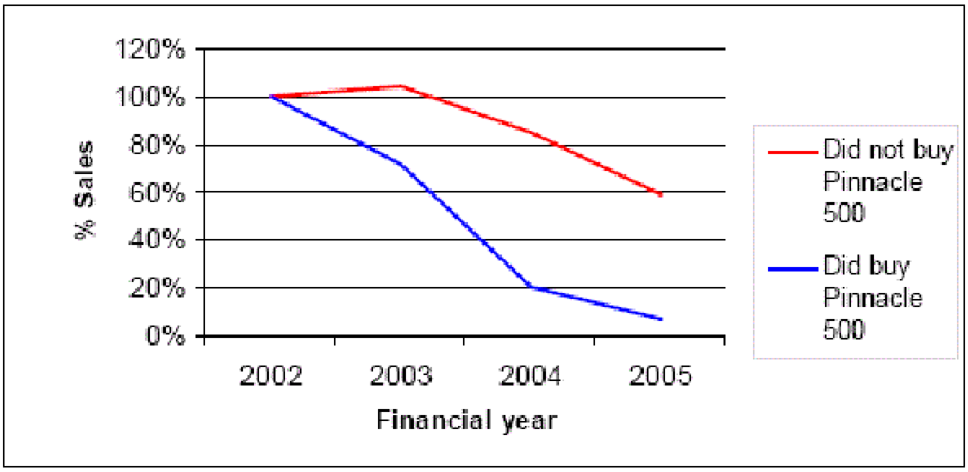
to purchasing Pinnacle 500 and £3,414 of Ultralite 500 in the year prior to infringement (to 30 June 2002). It is apparent that the value of Roundbrand's purchases of dual pitch product far exceeded the value of its purchases of Ultralite 500. Nevertheless it is contended that Roundbrand switched its source of dual pitch product because it had chosen to buy Pinnacle 500. I have to say that this seems to me to be inherently very unlikely. Moreover, the evidence established that Roundbrand was already an established customer of Eurocell. It had purchased substantial quantities of window profile since 2000.

173. Broadly the same picture is repeated for the other customers. Damages in excess of £370,000 are claimed on sales to Droylsden of £683,883. Its average annual dual pitched roof purchases from Eurocell amounted to £228,000. Yet Droylsden only purchased £31,000 of Ultralite 500 in the year prior to purchasing Pinnacle 500 and £25,441 of Ultralite 500 in the year prior to infringement (to 30 June 2002). Once again, it is apparent that the value of Droylsden's purchases of dual pitch product far exceeded the value of its purchases of Ultralite 500. But again it is contended that Droylsden switched its source of dual pitch product because it had chosen to buy Pinnacle 500. As in the case of Roundbrand, I have to say that this seems to me to be inherently very unlikely. It is notable that Droylsden (via a related party) had also been a customer of Eurocell since December 2001.

174. Paragon and First Class Conservatories account for a collective claimed loss of about £150,000. Again their average annual dual pitched roof purchases from Eurocell were substantially greater than their purchases of Ultralite 500, although it is fair to say to a lesser degree than in the case of Roundbrand and Droylsden.

175. The final piece of evidence to which I must refer is a graph prepared by Mr Hall in his reply evidence which compares the decline in dual pitch roof sales to those customers who did buy Pinnacle 500 to those who did not:

Fig 5.2: Percentage sales (using 2002 as a base year) of dual pitched roofs to Ultraframe customers who did not purchase Pinnacle 500 compared to those who did purchase Pinnacle 500



176. This analysis, it was submitted, provides support for the assertion that the introduction of Pinnacle 500 had a significant impact on the level of lost sales of dual pitch roofs by Ultraframe.

177. I agree that the graph shows that sales of dual pitch roofs to customers who bought Pinnacle 500 declined faster than sales of dual pitch roofs to other customers. However, the graph does not establish that Pinnacle 500 was the cause of that greater decline. It may be, for example, that customers who switched to Pinnacle 500 were generally cost conscious and were on the lookout for a cheaper source of both products. Absent some evidence explaining the reason for the faster decline I do not find this evidence persuasive.

178. I can deal with customers in the second category quite shortly. I have no reliable evidence that customers who ceased buying dual pitch products from Ultraframe but did not buy them from Eurocell did so as a result of their decision to buy Pinnacle 500. This can have nothing to do with a one-stop-shop. The only instance that was explored to any degree in the evidence was Ayrshire and, for the reasons I have given, this has not been shown to have anything to do with Pinnacle 500. The graph the subject of Mr Hall's fig. 5.2 is no more persuasive in relation to this class of customers than it is in relation to those customers who bought dual pitch roofs and Pinnacle 500 from Eurocell.

179. In the light of all this evidence I have reached the conclusion that Ultraframe has failed to establish that it has lost any significant sales of dual pitch products to Eurocell as a result of the infringement. When properly considered in the context of the Eurocell trade channels the one-stop-shop argument does not support the conclusion that Eurocell intended or expected to secure sales of dual pitch product to customers of Ultraframe. Further, the evidence taken as a whole does not support the conclusion that Eurocell have in fact made sales of dual pitch products as a result of the infringing sales of Pinnacle 500. On the contrary, I believe the weight of the evidence is that Eurocell have not secured such sales as a result of the infringement.

180. In *Gerber* Jacob J considered the issue of "convoyed" or associated goods and services. He held at [1995] RPC p.402, ll. 5-13 that infringement of a patent is one of the cases where a secondary loss can be recovered, provided the secondary loss is a foreseeable consequence of the infringement. The secondary loss may consist of sales of unpatented items which go with the patented item as a commercial matter (in that case CAD systems, service contracts and spares) and such loss as the patentee can establish results from the infringer establishing a business pre-expiry. However, it remains critical that the patentee can establish the factual basis: that his loss is caused by the infringement and foreseeably so. The Court of Appeal affirmed this approach. Staughton LJ observed at [1997] RPC 456, ll.5-15:

> " Beyond that the assessment of damages for infringement of a patent is in my judgment a question of fact. There is no dispute as to causation or remoteness in the present case; nor can I see any ground of policy for restricting the patentees' right to

> recover. It does not follow that, if customers were in the habit of purchasing a patented article at the patentee's supermarket, for example, he could claim against an infringer in respect of loss of profits on all the other items which the customers would buy in the supermarket but no longer bought. The limit there would be one of causation, or remoteness, or both. But the present appeal, in so far as it seeks to restrict the scope of recovery, should be dismissed."

181. As both Jacob J and the Court of Appeal made clear, the claimant must establish the factual basis of the claim. Whilst it is true that damages must be assessed liberally and are difficult to assess with precision this does not absolve the claimant from the responsibility of proving its claim. In the present case Ultraframe has not shown that its loss of sales of dual pitch products has been caused by the infringement. Moreover, and in so far as there may have been some losses in particular cases, albeit not established, I do not believe that any such losses were foreseeable. I have not accepted that by providing a one-stop-shop in their branches Eurocell were intending to or expected to take dual pitch business away from Ultraframe. Furthermore, in all the circumstances of this trade, it has not been shown that Eurocell ought reasonably to have foreseen that that would be the consequence of their actions. This head of the claim therefore fails.

Issue D: Losses arising post infringement

182. Ultraframe claims that the damage it suffered during the period of infringement has continued after the grant of the injunction. Accordingly it claims damages in respect of continuing losses resulting from (i) the continuing effects of price depression, (ii) on going lost profit on sales of Ultralite 500, and (iii) on going lost profit on sales of related products.

Continuing effects of price depression

183. Ultraframe claims that it is suffering continuing losses estimated at £1.1 (based on a 2% price increase) to £1.3 million (based on a 5% price increase) per annum as a result of the price depression caused by the infringement. Mr Allen and Mr Richardson estimated that it will continue to suffer from the effects of the infringement for a period of two to three years, although they gave no real explanation as to how they arrived at this figure. It is also accepted by Eurocell that Ultraframe has not put up its prices since the grant of the injunction.

184. Eurocell dispute that there is any on going loss caused by price depression and contend that the real reasons why Ultraframe has not put up its prices since the grant of the injunction are twofold: first, competition from K2 and Synseal (with the launch of its own low pitch roof called Global 600), and the low price Victorian roofs referred to in the Capex document; second, the fact that to do so would compromise its pricing for its new product Elevation.

185. I have considered the causes of price depression in addressing Issue A4 and Issue B earlier in this judgment. I estimated the extent to which the presence and pricing of Pinnacle 500 contributed to the reduction in price of Ultralite 500. I reached the conclusion that, but for the infringement, the net price of Ultralite 500 (taking into

account rebates) would have been £44 for the year 2005. In fact it was significantly lower. It seems to me to be unreal to suggest that the effect of the price reduction caused by the infringement would not persist for a period after the infringement has ceased. A commercial body cannot simply raise its prices out of line with costs and other market conditions without inflicting damage to its goodwill. I therefore accept the evidence of Mr Allen and Mr Richardson that Ultraframe has suffered damage caused by price depression beyond the date of the injunction. However, the estimates given by Mr Hall are, on my findings, far too high. Further, I think it is excessive to extend these losses for more than a limited period. In this regard I am conscious that I have no evidence as to current market conditions or what steps Ultraframe has actually taken to try and lift its prices. In all the circumstances I have reached the conclusion that a reasonable sum to award to Ultraframe for continued losses resulting from price depression is £300,000. I have reached this figure taking into account the difference between £44 and the net price (including rebates) actually achieved and the sales figures for Ultralite 500 in the year to June 2005.

On going lost profit on sales of Ultralite 500

186. Ultraframe says that it is continuing to suffer the effects of the infringement in that its sales of Ultralite 500 have not increased since the injunction. An analysis by Mr Hall shows that there has not been any discernable increase in the level of Ultralite 500 sales since that time. As at 30 November 2005, only two of the 50 lost Ultralite 500 customers had returned to Ultraframe. Moreover, it says that it will take time to replace such a long established and significant distributor as Eurocell.

187. Mr Hall has calculated the reduced level of sales and the ongoing losses on the basis of the Pinnacle 500 sales in the year to June 2005 less the sales that Ultraframe has recovered. This gives a claim for total continuing annual loss of between £0.7 million (based on a 2% price rise) and £0.8 million (based on a 5% price rise).

188. In my judgment this claim faces a fundamental difficulty. It is essentially a "springboard" claim. But Eurocell have not replaced the infringing product with another and so retained the market they may be said to have established with Pinnacle 500. Instead they have effectively withdrawn from the market. Since the date of the injunction they have only sold some £70,000 worth of the Wendland product – a small fraction of their previous sales – and they have never actively marketed it. There is no evidence that this small trade has had any effect on Ultraframe's trade. In short, Ultraframe is suffering because Eurocell has withdrawn from the market and is not selling Ultralite 500, not because it previously sold Pinnacle 500. In addition it must be remembered that the market has been in overall decline and this has been reflected in a general drop in Ultraframe's sales.

189. Nevertheless I do accept that the infringement must have caused some disruption of Ultraframe's trade channels and customer connections. It is, I think, relevant that Eurocell seized a market by selling a virtually identical product at a significantly lower price. Further, by selling it on to Synseal at a substantial discount they effectively provided a further independent source of the same product but under yet another brand name. This disruption must have continued for a period after the infringement ceased and I did not understand this to be seriously disputed by Eurocell. But how do I put a value on it? The parties suggested that I must make an estimate. All I can do is attribute a portion of the lost business for a further limited period of

time to this effect. Taking due account of my conclusions as to the loss of business that Ultraframe suffered during the period of the infringement I estimate the damage at £200,000.

On going lost profit on sales of related products

190. I have reached the conclusion that Ultraframe is not entitled to claim in respect of such losses during the period of the infringement. For like reasons it is not entitled to claim in respect of the period after the infringement came to an end.

Issue E: Costs associated with the mitigation of damage

191. Ultraframe seeks the development costs of Elevation amounting to some £1.5 million, taking into account an offset of £250,000 that it says it would have incurred in developing Ultralite 500. It claims it is entitled to this sum because it developed Elevation in an attempt to mitigate its damage. It recognises that the attempt has not been successful but says it was nevertheless a proper and reasonable step to take.

192. As a general rule a claimant is entitled to recover for losses and expenses reasonably incurred in mitigation, even if the resulting damage is even greater than it would have been had the mitigating steps not been taken. Further, where an act is reasonably done with a view to minimising any possible future damage and is not extraneous or extrinsic then expenses are recoverable.

193. In the instant case the main issue between the parties is whether or not Ultrafame has shown that the decision to spend the money on Elevation was taken because of the infringement. Ultraframe contends that I should conclude that the overriding and dominant reason for developing Elevation was the competition from Pinnacle 500. It would not have been launched but for the infringement. Eurocell contend the opposite, that the development would have gone ahead without the infringement and that this is shown by the Capex document.

194. Mr Richardson explained, and I accept, that the design of Elevation began in the autumn of 2003 as a result of the presence on the market of Pinnacle 500. Apparently a project team was set up and this led to the production of the Capex document and the positioning paper which accompanied it. Mr Richardson's only involvement with the team was at the outset, when the design process began. Mr Hanson, who was responsible for the creation of the positioning paper and a leading member of the team did not give evidence before me even though I understand that he is still employed by Ultraframe.

195. The Elevation project was approved by the Board of Ultraframe in April 2004 on the basis of the Capex document. A large number of key personnel signed it, including Mr Allen and Mr Hanson (on behalf of the Marketing Director). Mr Richardson did not sign it. Nevertheless he was the person who gave evidence about it in chief. As Mr Richardson explained to me, the Board authorised the capital expenditure on the project and that authorisation would have been given on the basis of the contents of the document. Following that authorisation the money could be and was spent.

196. The only person who signed the document and gave evidence before me was Mr Allen. No other member of the Board gave evidence. Mr Allen explained in cross

examination that he signed the Capex document but never read it. Nor did he read the positioning paper. He asked one question which was whether the document stated that Elevation was being developed because of Pinnacle 500 and was told that it did. Having read the paper before the damages hearing he expressed the view that he did not agree with the marketing conclusions expressed in it. Nevertheless, he accepted that Mr Hanson spent a significant amount of time speaking to customers and would have known what he was talking about when it came to competitor products.

197. As I have explained in the background section of this judgment, the Capex document gives five reasons for the development of Elevation. Only one related to the infringement. The others were the presence on the market of more widely available and cheaper roofs from K2 and Global and complete conservatories from BHD and Cestrum; customers were voting with their feet and choosing the more aspirational duo pitch Victorian conservatories; customers at the cheaper end of the market were able to choose from a wider range of installation routes and that Ultralite 500 was perceived to have product weaknesses. One of these, recognised by Mr Richardson to be quite compelling, was that new building regulations might render the existing panels obsolete.

198. In these circumstances I am unable to conclude that the overriding or dominant reason behind the decision to spend the money now claimed was the presence on the market of Pinnacle 500. I cannot say that but for the infringement the same decision would not have been taken. Ultraframe has chosen not to lead evidence as to the basis upon which the Board decision was taken. All I have is the evidence of Mr Richardson, who was not involved, and the evidence of Mr Allen, who was involved but gave no evidence about the decision making process other than to say that he had not read the document and only asked the one question to which I have referred. All of the other reasons given in the Capex document are, on their face, perfectly plausible reasons for authorising the expenditure on Elevation. In my judgment Ultraframe has simply not made out its case under this head.

Issue F: Interest

199. As I have indicated, this is not in issue. Ultraframe is entitled to interest. The parties are agreed that the appropriate rate is LIBOR + 1%.

Conclusion

200. For the reasons I have given Ultraframe is entitled to damages for lost profit on lost sales of Ultralite 500, a royalty of 8% on sales of Pinnacle 500 that do not represent lost sales, damages for price depression, damages for losses post infringement caused by price depression and disruption of the market and interest. The parties will need to carry out calculations in accordance with my findings. I will hear further argument if necessary and as to the appropriate form of order.