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Corporate Intangibles Research and Development Manual

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CIRD277000 - Patent Box: example of Patent Box calculation

Example of a Patent Box calculation

CTA10/s357BF, [CIRD275100](#)
(<https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird275100>) and [CIRD275200](#)
(<https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird275200>)

Note: The layout works best when viewed in landscape

Kleenerjel Ltd (a fictitious company) produces hand sanitiser gel which it sells in two forms

- Bestgel – sold to the public via retail outlets under this brand name
- Bulkgel – supplied in bulk to hospitals to fill dispensers and to discount chain Cheapshops Ltd for sale in Cheapshops' own packaging

These products all contain Kleenerjel's patented antimicrobial compound A, in addition Bestgel contains a second patented compound B which prolongs the life of the antimicrobial and gives the product a pleasing ocean-blue colour and fragrance. (Bulkgel is transparent and smells very slightly of chlorine).

Tracking and tracing R&D expenditure

[CIRD275100 \(https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird275100\)](https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird275100)

Compound A was developed entirely from in-house R&D (R&D cost: £1m), an exclusive licence to use compound B was purchased from a global chemical firm (one-off payment: £500,000). These costs were incurred earlier than the year of the computation.

The company's Patent Box calculation for a post 1/7/2016 accounting period is as follows:

- **Calculate RIPI and decide streaming level**
[CIRD271500 \(https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird271500\)](https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird271500)

Overall income 126,000

The company could stream the IP income two ways

- by IP item, with two streams corresponding to A and B. This would mean attributing income from

Bestgel between two IP substreams, which would be arbitrary or

- by product substreams: Bestgel (which contains both patented ingredients) and Bulkgel (which contains only one).

It chooses the latter. For simplicity, in this example there is no non-IP income. If there was we would see an additional column in the table below with income and expenditure, but it would not affect the PB calculation.

- **Calculation steps described in** [CIRD275200](https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird275200) (<https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird275200>)

The calculation is shown below, including the expenditure spread across streams on a just and reasonable basis and application of routine return to remove routine profits from the patent box. (For comparison, the third column shows how things would look before the post 1/7/2016 rules required income streaming).

Steps 1 - 3: Income from Bestgel is 21,000. Income from Bulkgel is 105,000. Expenditure (deductions) on the two streams is 10,000 and 50,000 respectively, which for the purposes of this example is all non R&D related, so the total expenditure is included in the routine return criteria.

| | Bestgel |
|-----------------------|----------|
| Bulkgel combined * | |
| | 21,000 |
| 105,000 | |
| 126,000 | |
| | (10,000) |
| (50,000) | |

(60,000)

* combined is for clarity only

Step 4. Net Profit is then reduced by the routine return calculation (10% x expenditure).

| | | |
|---------|---------|---------|
| | | 11,000 |
| | 55,000 | |
| 66,000 | | |
| | | (1,000) |
| | (5,000) | |
| (6,000) | | |
| QRP = | 10,000 | |
| | 50,000 | |
| 60,000 | | |

- QRP is 'Qualifying Relevant Profit', simply the profit with routine return removed, labelled so we can refer back to it.

Step 5: There needs to be consideration as to whether Marketing Assets Return (MAR) applies, and the relevant deduction made if it does, for each stream. This is the element of profit attached to the branding or goodwill of the product and not directly to the exploitation of the IP, so is not to be included within the Patent Box.

In the case of Bulkgel, there is little dependence on the brand name (none, for the sales to Cheapshops) and minimal marketing (sales reps) so no profit attached to a brand: both hospitals and Cheapshops Ltd buy the cheapest they can get (NHS doesn't resell, and Cheapshops wouldn't charge any kind of premium for a known brand).

- So for Bulkgel commercial knowledge sustains 0 MAR.

A Transfer Pricing calculation is necessary for Bestgel and follows, essentially, from taking Bulkgel as a baseline, and allowing for the fact that some, but not all, of the premium for Bestgel

will come from the fact that it also contains compound B.

The company compares profit margins with the unbranded products and identifies that around 50% of the Bestgel profit of 11,000 is attributable to additional factors (say 5,000). Transfer Pricing calculations show that 80% of the additional profit comes from ubiquitous marketing using leading actors, TV personalities, and celebrity influencers, whilst 20% relates to the exploitation of the blue IP.

- Therefore MAR for the Bestgel stream is calculated as $80\% \times 5,000 = 4,000$.

Every company will need to consider its own facts the first year it enters the Patent Box, but unless there is significant change it will be able to continue on the same basis. There are simpler rules for the smallest companies. The relevant profit if the QRP is reduced by the MAR.

| | |
|--------------|---------|
| | Bestgel |
| Bulkgel | |
| Combined | |
| | (4,000) |
| 0 | |
| Treated as 0 | |
| | 6,000 |
| 50,000 | |
| 60,000 | |

Because the MAR (4,000) for Bestgel is greater than 10% of the QRP (1,000) it is deducted, removing profits not related to the exploitation of the patent from the Patent Box.

Due to the nature of streaming, the MAR applies directly to the sub stream to which it relates.

- Step 6: applying the R&D fraction

An R&D fraction has to be applied to the relevant profit in each substream, to reflect the underlying substantive activity behind the IP profits.

The R&D fraction is $(D+S1) \times 1.3 / (D+S1+A+S2)$

[CIRD274000 \(https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird274000\)](https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird274000) explains that D is Direct R&D expenditure, S1 is unconnected third party R&D subcontracting expenditure, S2 is connected party R&D subcontracting expenditure and A is acquisition cost of IP.

The definitions of qualifying expenditure are also provided in the guidance.

There is a 30% uplift ($\times 1.3$) applied to the 'good' R&D expenditure on the numerator which is permitted by the OECD rules, increasing the fraction to allow for various circumstances in which substantive activity by the company would not contribute to qualifying expenditure, for example because of its group structure.

Taking Bulkgel first, these products contain only compound A which was entirely self-developed. There is therefore no need to calculate an R&D fraction because it will be 1 (it is £1m qualifying cost divided by £1m total cost). So we multiply the 50,000 profit for Bulkgel by 1, to get a relevant profit of 50,000.

- Bulkgel R&D fraction = 1

For Bestgel, we have to include both compounds A and B. That means the R&D fraction looks like this:

$(\text{Qualifying expenditure} \times 1.3) / \text{Total expenditure}$

Qualifying expenditure = £1m in-house R&D costs (D)

Total expenditure = £1m in-house R&D costs (D) + £500,000 payment for exclusive licence (A)

- Bestgel R&D fraction = $(1\text{m} \times 1.3) / (1.5\text{m}) = 0.87$

Step 7 : Combine the sub-streams.

The final relevant IP profit figure for Bestgel is $0.87 \times 6000 = 5,220$ and the final total relevant IP profit for the company is $50,000 + 5,220 = 55,220$.

- **Patent Box deduction** [CIRD201020](https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird201020)
(<https://www.gov.uk/hmrc-internal-manuals/corporate-intangibles-research-and-development-manual/cird201020>) CTA10/s357A

Patent Box allows relevant profits to be taxed at 10% instead of the main CT rate.

However, relief is given by inserting a 'Patent Box deduction' to artificially reduce the profits in such a way that the reduced profit is taxed at its applicable main rate of CT to arrive at the same result.

In the above example, say the main rate of CT is 25%.

The Patent Box deduction is $\text{Relevant Profits} \times (\text{MR} - \text{IPR}) / \text{MR}$

where MR = main CT rate = 25% and

IPR = IP rate = 10%.

In this example the relevant IP profits are $55,220 \times 15/25 = 33,132$

- Net Profit of $66,000 - 33,132 = 32,868$ @25% = 8,217

(which is the same as : $55,220 \times 10\% = 5,522$ + main rate profits $10,780$ ($66,000 - 55,220$) $\times 25\%$ £2,695 = 8,217).

- With no Patent Box main rate tax is $66,000 \times 25\% = 16,500$

The savings due to the Patent Box incentive are £8,283

These will increase as profits increase.

Note: CT rate changes will affect the amount of the savings

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