



# Paper choice for medical device packaging – 5 key factors to consider

Technical developments in paper packaging for medical devices have significantly broadened the range of options available to Medical Device Manufacturers (MDMs) in recent years. Among other things, it's now possible to much more closely match a paper grade to your specific needs. **So how do you select the best paper for your application and which factors are worth putting the most consideration into?**

*Here is a quick run-through of the five most important factors to consider when choosing the right paper for your application:*

## 1. Sterilisation

Sterilisation should always be the first consideration for medical packaging. Most medical papers are suitable for both radiation and EtO sterilisation, but not all are suitable for steam sterilisation. Steam sterilisation papers require higher porosity, higher tear strength, and higher levels of maintained strength in wet conditions.

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### Questions for the Packaging Engineer

- *Do I need a steam paper?*
  - *Will a single type of paper cover all my sterilisation needs?*
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## 2. Protection of the device

Once you have narrowed down your choice to match your sterilisation needs, it's time to consider the device that you are packaging. Factors such as the size, weight and shape of the device all have a bearing on your paper choice. Heavy devices may strain the paper and sharp devices can puncture the paper and cause pack failure.

Sometimes altering the positioning of the product in the package is enough to lessen the risk of failure. Other times, a heavier weight paper or a paper with reinforcement, is required.

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### Questions for the Packaging Engineer

- *Do I need a heavier weight or reinforced paper?*
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### 3. Sealing

Sealing is a key consideration connected to paper choice. While it may seem logical that a stronger seal is always better, in reality higher seal strengths bring with them an increased risk of fibre tear when opening the pack. So instead of simply choosing the strongest possible seal, the key is to assess how strong the seal needs to be to guarantee pack integrity.

If stronger seals are needed, using a surface treated, or a heat seal coated paper can be a good way to achieve a stronger seal while maintaining fibre free peeling.

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#### Questions for the Packaging Engineer

- *How strong a seal do I need to ensure pack integrity?*
  - *Do I need a surface treated or heat seal coated paper to ensure strong seals and clean peels?*
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### 4. Pack Size

Pack size is also a consideration in paper choice. Larger packs often contain heavier devices which require more protection, but larger packs also stress the seals more than smaller packs.

With a larger pack, the peel angle quickly reaches 180° and this places much more stress on the paper which can lead to tearing. The same is true of very long packs. These problems can be addressed by using heavier papers, reinforced papers, surface treated papers and heat seal coated papers.

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#### Questions for the Packaging Engineer

- *Is my pack large enough to cause issues with peel angles?*
  - *How will my pack be opened?*
  - *Do I need to specify a stronger paper, or a coated, paper?*
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### 5. Market Expectations & Cost

Finally, market expectations and cost will always play in to your paper choice. Does the market for this device demand more premium materials or presentation, or is cost a stronger driver? For example, packaging for high volume Class I devices is perceived differently and has different requirements compared to packaging for Class III devices.



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Cost is always a consideration, but it must always be secondary to pack integrity and patient safety.

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## Questions for the Packaging Engineer

- *What does my market expect and how price-sensitive is it?*
  - *Have I ensured Pack Integrity?*
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**Paper choice can be a jungle for MDMs, especially since new technologies and innovations are constantly changing what is on offer. Today, we know that equipment, paper and film qualities are all closely connected, and must all work optimally together to achieve high productivity and consistent quality. Choosing a supplier that offers true technical expertise, a full range of paper and sealing options, and who is flexible to your needs and requirements, will really pay off down the road.**



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