# Advanced Medical Solutions
## "A Healing Solution"

Featuring small character inkjet printers
**Traceability of medical products**


## A Customised Solution

Advanced Medical Solutions (AMS), which develops and manufactures advanced wound care dressing technologies from its Cheshire factory, was unsatisfied with the legibility of batch codes and expiry dates on an application involving aluminium gel-filled tubes.

## The Issue

Due to stringent traceability requirements, any tubes displaying a code that wasn't easy to read had to be discarded; this wastage was having a notable financial impact on AMS, so it called in long-standing supplier Markem-Imaje to find a solution to resolve this problem.

Commenting on the application, Chris Neild from Markem-Imaje said: "The main problem lay with the sterilization process. Because the tubes are used in aseptic environments, after being filled and coded, they have to be sterilised in an autoclave for an hour at 121 degrees centigrade."

AMS was originally using an indenting solution to mark the data on to the fold of each tube. Although the codes were of a good standard initially, when sterilized the high temperature in the autoclave caused the tubes to expand and the enamel around the codes flaked off making them difficult to read.

**"The 9040 inkjet printer has substantially improved the overall efficiency of our process."**

**Xiaodong Wang,**
**Technical Manager**

**Name:** Advanced Medical Solutions

**Location:** Winsford, Cheshire, UK

**Founded:** 1991

**Staff:** 160 at the Winsford site

**Business:** Wound care dressing technologies

**Annual Production:** About 1,000,000 tubes

Markem-Imaje recommended that instead of indenting the codes onto the tubes, AMS use its 9040 inkjet coder using an ink specially formulated to withstand excessive temperatures.

Xiaodong Wang, technical manager for AMS, commented: "The team at Markem-Imaje scrupulously tested a broad range of high temperature inks in an autoclave to make sure it found the most suitable ink for the application. This process also involved sending sample tubes to our customers for their feedback. We eventually selected a high temperature black ink, which continuously produced a permanent and easily legible code after sterilization."

There was, however, a further complication to the process. The previous coder had been permanently fixed to a rotary filling machine, but AMS wanted its new coder to be free-standing so that it could easily be maneuvered to and from the filling machine as required.

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the team to trust

## Addressing the issue

To solve this, Markem-Imaje fitted two easy-to-manipulate stainless steel brackets just inside the filling machine to support the stainless steel printhead when it was required. It also installed a fibre optic sensor to the side of the printhead so that the coder would be able to sense the size and position of each tube to ensure total control of the process.

"The particularly complex part of the application was fitting the printhead of the inkjet printer into the filling machine," said Chris. "Space was very limited."

Advanced Medical Solutions, a leading British wound care product manufacturer, chose Markem-Imaje to improve the quality of its codes and make substantial savings.

It was also important that the doors around the filling machine could be closed during the filling and coding process for health and safety purposes. Markem-Imaje suggested to fit the printhead with a 90° bent umbilical, allowing the doors to be shut around it.

In addition to improving the print quality, the new 9040 inkjet coder has also led to vastly reduced batch changeover times for AMS. With the old indentation system, changing the batch code was a lengthy process. Operators had to physically change the digits in the head each time they wanted to start a fresh batch. With the new system, the code data required is simply entered into a large screen on top of the coder using a QWERTY keyboard.

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Xiaodong concluded: "The overall efficiency of the process has improved substantially. We can easily install the coder into the rotary filling machine whenever we need it, and it continues to provide a high quality code while printing up to 60 tubes per minute."

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