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Case Study

Fueling UID Compliance

MAC Packaging and Metalcraft create UID label for hard-to-fit hose

Problem:

The Department of Defense (DoD) has mandated that certain assets and property it owns, including assets in the possession of Defense contractors, be tracked with unique, machine-readable identification numbers (UID). The UID policy aims to modernize the largest supply chain in the world – enabling government and private contractors to manage inventory more effectively.

Since the policy began to take shape in 2003, Defense contractors have worked to develop systems for complying with the two main processes required by the mandate – marking and registry of individual items.

Marking requires a machine-readable, permanent identifier – a two-dimensional data matrix that is engineered to last the lifetime of the item. Each matrix enables unique identification of individual items using existing data elements, including the manufacturer’s identification and the item’s serial number, and/or the part number.

Of course, the diversity of DoD’s purchasing means there is tremendous variance in how items become marked. Some contractors choose to directly inscribe the matrix on the individual item; many others use a durable label or data plate attached to the item.

And some items are difficult to mark.

MAC Packaging Company, Inc. helps Defense contractors like Boeing and Honeywell comply with the UID policy, and was presented with a challenge to mark fuel-refilling hoses for Apache helicopters. An Apache fuel-refilling hose is nearly 200 inches long and made of braided material – a round, rough, flexible item that made UID marking difficult.

“There was really no way to make a durable label that we could directly attach to the hose,” said Andy Munter, founder of the Tempe, Arizona packaging company. “And whatever we used had to be durable. DoD requires the mark to last the lifetime of the item.”

Solution:

Munter decided a small, metal band around the hose would create a durable surface for marking, and he called Metalcraft to help with the job.

Metalcraft specializes in the production of customized nameplates and labels for harsh environments – capabilities that positioned them to become early experts in the development of UID compliant marking products. Together, MAC Packaging and Metalcraft developed new, UID-compliant labels for the hoses.

“We work closely with Metalcraft on a lot of projects,” says Munter. “They make tough, custom labels fast, and MAC Packaging works on the rest of the compliance process for Defense contractors. We’re a good team for UID customers because we make it easy to move compliant orders off the loading dock fast.”

Metalcraft’s first step was designing a label to fit Munter’s small metal band for the fuel hose.

Most UID plates are roughly two inches square, but this application required a .79 inch by .47 inch plate because of the smaller surface area available on the convex metal band. Metalcraft’s team of UID specialists reduced the label design to its essence – the two-dimensional data matrix – and left the bar codes and most other human readable information behind.

“The DoD says if you don’t have room for all the information, you can lose the linear bar codes,” said Munter. “The 2D datamatrix is the minimum.”

Metalcraft’s team of UID specialists made quick work of generating small, readable marks on photo-anodized aluminum labels. Their imaging process ensured the two-dimensional data matrix would remain readable despite exposure to abrasion, chemicals, sun, salt air, and extreme temperatures. And the Mason City, Iowa-based company used adhesives proven to create strong bonds between metals.

“Metalcraft’s fifty-year history with metal nameplates has cemented their understanding of what makes identification products durable,” said Munter.

Metalcraft verifies the print quality of the UID and MAC Packaging validates the information contained in each hose’s UID label; error-checking the data matrix is crucial to ensuring speedy acceptance by DoD.

Then MAC Packaging manages the important registration of the hoses’ UID through the DoD’s UID Registry and Wide Area Workflow – a secure web-based system for electronic invoicing, receipt and acceptance – before shipping the item.

Results:

MAC Packaging’s hose orders continue to grow. Metalcraft produces as many as 750 nameplates at a time now for the MAC Packaging customer – testament to the DoD’s acceptance of the marking and registry of the fuel hoses.

“The anodized aluminum label is very tough and very readable,” said Munter. “A durable label adhered to a metal band is a great example of the UID compliance solutions developed through the teamwork between Metalcraft and MAC Packaging.”

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Call 800-437-5283 or visit www.idplate.com for more information on Metalcraft UID tags and their customers’ solutions.