

THE MOST

# COMMON MISCONCEPTIONS

ABOUT IUID AND RFID COMPLIANCE

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LONG ISLAND CHAPTER

Many organizations owe a significant amount of their revenue to the relationships they maintain with the DoD, even when only a small percentage of their overall business is made up of government contracts they fulfill. For these companies, understanding and following regulatory and compliance standards can make or break that relationship, and the contract.

However, although many government contract organizations are aware that the Item Unique Identification (IUID) and Radio-frequency identification (RFID) compliance standards are in place, they often have an inadequate understanding of how these regulations affect their business specifically.

It has been our experience that many misconceptions exist surrounding DFARS Clause 252.211-7003, Item Unique Identification, which includes MIL STD 130, and have the increasing potential to expose non-compliance resulting in serious detriment to the reputation of many businesses. For example, A2B Tracking recently found a multi-billion dollar company that was non-compliant within seconds by using a smartphone app that was created to validate the accuracy of the barcode syntax to MIL STD 130.

Although negative aspects of noncompliance are complex and significant, there are a few typical repercussions. When businesses fail to comply with the IUID marking and reporting requirements, they are subject to additional oversight; more frequent audits; failure to meet Business System rule clauses, resulting in withholds on contract payments; and costly corrective action plans and monitoring.

We have found that many are simply unaware of how serious these oversights are. For that reason, we are going to highlight some of the most common misconceptions people have about IUID and RFID compliance. Our goal here is to help you understand the most common misconceptions when implementing the military marking and tracking standards that have not gone away, and will be in place for decades to come.

### WHAT ARE THESE COMMON MISCONCEPTIONS?

It is time for every organization who provides products or services to DoD programs, large and small, to recognize the main misconceptions on their path to compliance, especially issues that make them more susceptible to a failed compliance audit; a threat which is growing substantially every day as the likelihood of an audit becomes more probable. In the sections below, we will break down the following common misconceptions.

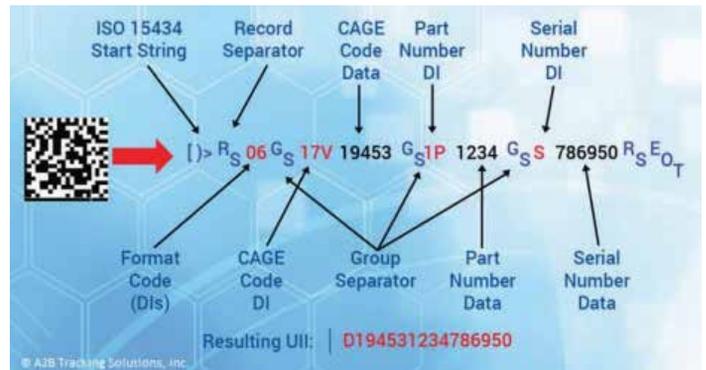
1. BECAUSE IT SCANS, IT'S COMPLIANT
2. MY INVENTORY IS TOO SMALL TO BE CONCERNED WITH FULL COMPLIANCE
3. I MARKED IT BUT I DON'T NEED TO REPORT IT
4. MICROSOFT EXCEL® CAN MANAGE MY DATA
5. LABELS, SOFTWARE AND PRINTERS CAN BE PURCHASED AT STAPLES
6. I'VE SHIPPED IT SO I'M EXPECTING TO GET PAID

#### MISCONCEPTION 1: "BECAUSE IT SCANS, IT'S COMPLIANT."

For IUID, the ability for a 2D Data Matrix barcode to be scannable doesn't mean that it is compliant. Many of those within organizations who supply the DoD, from manufacturing to property management, are under the impression failing to recognize that military standards are not being met simply because the barcode

can be scanned by a particular scanner.

The makeup of the barcode, the machine-readable information required for military asset identification, must be in a very specific format that is compliant with MIL STD 130. This standard explicitly states that the 2D Data Matrix barcode must follow the exact syntax for encoding, and must be readable across various types of scanners. MIL STD 130 requires a complex syntax that, if not encoded correctly, can result in non-compliant 2D barcodes that may result in shipment rejections.



*GENERATING 2D BARCODES WITH DYNAMIC PART NUMBERS, SERIAL NUMBER, AND ISO 15434 SYNTAX CAUSES ENCODING MISTAKES. THIS REQUIRES VALIDATION AND VERIFICATION OF EVERY BARCODE GENERATED.*

MIL STD 130 insists that new end item shipments or GFP marked for the DoD as part of a repair contract, must verify at an A or a B grade, but off-the-shelf barcode scanners or imagers will still scan a grade C (or worse). This creates confusion for manufacturing lines that aren't normally held to these kinds of standards for barcode creation or scanning.

The Defense Contract Management Agency's (DCMA) may put some shipments, or every single shipment, through a quality checkpoint before allowing it to be shipped to the government. If standards are not met, the shipment's journey may be delayed. Especially for shipments containing mission-critical goods, these delays may cause serious problems for all parties.

#### MISCONCEPTION 2: "MY INVENTORY IS TOO SMALL TO BE CONCERNED WITH FULL COMPLIANCE."

Some contracted businesses deliver and manage thousands of items to the government, while others are managing or shipping less than 100 items. Many of the organizations delivering goods in smaller amounts frequently believe that they do not need to be concerned with MIL STD 129 or MIL STD 130 compliance. They may believe that they do not manage enough property to trigger a contracts audit, which would lead to a review of end item deliverables, or property to inspect asset marking with IUID or a shipment with RFID. Because of this misconception, they do not worry about validating, verifying, and reporting the codes to complete the entire IUID and RFID compliance process.

However, every DoD contract that requires a property management system will, by default, require IUID asset identification. Inventory size doesn't alter the level of responsibility





these organizations have in regards to MIL STD 129 and MIL STD 130, and serious consequences can occur if even one person feels that they don't need to take every step of the process.

Many of these smaller organizations are concerned with the costs involved with becoming completely compliant, believing it to be too expensive for them to implement an auto

ID system for their small inventory size. Fortunately, there are commercially available services that will generate durable IUIDs to apply to the assets of companies with a small population of assets. Afterwards, these outsource services will register the asset and shipment data to iRAPT (invoicing, Receipt, Acceptance and Property Transfer) and IUID Registry.

### **MISCONCEPTION 3: "I MARKED IT BUT I DON'T NEED TO REPORT IT."**

The existence of the barcode isn't sufficient. Electronic reports aren't optional for organizations that are required to comply with IUID regulations. However, in visiting many organizations with an IUID requirement, A2B Tracking has found that, while barcodes are a standard, only a percentage of these IUID barcodes are being registered.

When an organization gets audited by DCMA, the IUID system in place must be able to distinguish between end-item production and government property reporting. End items (assets that are produced by the contractor and delivered to the government) must be marked, registered, and often delivered with an Advance Shipping Notice (ASN).

Misconceptions around these obligations can result in an expensive oversight for contractors who are responsible for ensuring that these steps are taken for end item deliverables, assemblies, and spare parts under their purview. This is also true for property managers who are responsible for Government Furnished Property (GFP) and Government Furnished Materiel (GFM). The DoD Instruction 5000.64 states:

*Although the Department of Defense may not have physical custody, in order to maintain effective property accountability and for financial reporting purposes, DoD Components shall establish and maintain records and accountability for property (of any value) furnished to contractors as Government furnished property (GFP).*

The IUID Registry is the master data source for GFP; thus, inaction surrounding reporting of this data could delay the DoD's processing of payments.

For both end item deliverables, GFP and GFM, inaction could also mean that a Product Quality Deficiency Report (PQDR) is issued, which requires a company to initiate a plan to resolve a deficiency in their contract obligation. This results in more expense than is typical for resolving the problem, and the "black mark" remains on the contractor's records.

### **MISCONCEPTION 4: "MICROSOFT EXCEL® CAN MANAGE MY DATA."**

Data is generated from many areas of the enterprise that must flow to the government. This requires business rules and controls that don't alter or lose data that would result in consequences from the government.

It's true that many operations are run entirely from spreadsheets; they are easy to setup and the data is simple to change. However, spreadsheets are simply not a viable option for the purposes of meeting government standards for asset data management.

The government requires that contractors have systems in place to track assets and shipments, particularly if managing government property. If a government representative calls for information on a specific asset, that data needs to be located quickly and easily. For organizations manually managing the data within a spreadsheet, the threat of inaccuracy is incredibly high. The more asset and production data they are tracking and reporting, the greater the risk becomes. Spreadsheets really do not lend themselves to tracking history or transactions which are required to support a property system.

We frequently see spreadsheets with extraordinary amounts of precise manufacturing or property data; the data is always flawed because spreadsheets don't have adequate controls to manage the business rules and data syntax required by Government systems. Spreadsheets have limitations outside of the dysfunctionality of manual data management for asset and production tracking, such as:

- **INCORRECT DATA ENTRY EVEN IF SCANNED**

The scanning of any bar code into a spreadsheet runs a huge risk of capturing data into the wrong cell, or of having the spreadsheet try to interpret the data string into a formatted cell.

- **NO CAPABILITY FOR DATA ENTRY RULES**

Spreadsheets can't create rules for certain kinds of data which cannot be broken, like how a part number is formatting or eliminating the possibility of a serial number being duplicated. Excel® is simply not adaptive enough to take in the ever-changing data rule sets. Specialized programming would be required to enable a spreadsheet for this level of control, and, even then, these rules are ever changing.

- **UNABLE TO FULLY INCORPORATE AUTO ID**

Spreadsheets present the enormous impediment of the inability to fully incorporate Auto ID. The particular formatting and interpretation required by an "intelligent" scanner that can handle and output the UII makes scanning an IUID barcode infinitely more challenging. Thus, these assets must be tracked and scanned manually.

It comes back to the 2D Data Matrix barcode: each code must have a precise syntax and the list of identifiers that specify how the UII string or machine readable information should be read. Because of the complexity, Microsoft Excel® can't be relied upon to create the strings for assets being submitted to the DoD.

These are rules that cannot be broken when submitting data to the DoD, so it's critical that the contractor initiates the control before it's too late and becomes expensive to clean up when recognized after shipment.

## **MISCONCEPTION 5: “LABELS, SOFTWARE, AND PRINTERS CAN BE PURCHASED AT STAPLES.”**

A surprising number of people have questioned the adequacy of goods acquired from an office supply store. A frequently asked question is, “Can’t we pick up label material and printers at an office supply store that will handle this requirement?”

In a word, the answer is no. When it comes to implementing IUID on your assets, not all materials are created equally. The “Identification Marking of U.S. Military Property” (MIL STD 130) gives direction for marking items sold to the DoD, and it includes specifications for the materials allowed.

The US military has set forth harsh environmental standards for the labeling of IUID compliant items. Among the standards is the requirement that the label must be “as permanent as the normal life expectancy of the item and be capable of withstanding the environmental tests and cleaning procedures specified for the item to which it is affixed.” (MIL-STD-130N 4.3) While Staples products can be applied to office equipment, they are not sufficient for adhering to these DoD standards.

Neither of the printing technologies are adequate. Even though office-durable printers will provide high contrast barcodes such as a black barcode on a white background, they will not provide the laser engraving, thermal transfer printing or photo-anodizing techniques required to ensure that durable MIL standards are being met.

There are four main marking materials that are best suited for a wide variety of assets:

### **1. PHOTO ETCHED ALUMINUM**

A type of plate or label that has been engraved with the appropriate ID information. These are incredibly durable and can withstand a significant amount of wear and tear.

**Best suited for:** assets used in aerospace applications and on vehicles, engines, weapons, and items that require heavy outside use.

### **2. POLYACRYLIC**

This is a high-performance acrylic that can be used to create an IUID label. It has been rated at a medium to high sustainability level for military rugged environments.

**Best suited for:** assets in rough industrial, marine, and medical environments, small arms, weapons system, and outdoor equipment.

### **3. METALIZED POLYESTER**

These IUID labels are created using polymer films that are coated with a thin layer of metal (like aluminum). They have a low to medium durability rating, and are more susceptible to the effects of on-going wear and tear.

**Best suited for:** electronics, computers, warehouse assets, textured metals, powder-coated surfaces, and low surface energy plastics.

### **4. POLYESTER**

These IUID labels offer excellent adhesion at a lower cost. They have a low wear and tear rating, but when used in the appropriate environment they have excellent smear and scratch resistance ratings and can be effectively used over a wide temperature range.

**Best suited for:** electronics, inside protected areas, protected assemblies, and under the heat shield of firearms.

## **MISCONCEPTION 6: “I’VE SHIPPED IT SO I’M EXPECTING TO GET PAID.”**

Contractors only get paid when DCMA inspects and accepts the shipment and the products within the shipment, and DCMA does not accept anything that is not compliant to the shipment marking and item marking standards. Think of them as a form of Quality

Control, if the shipment doesn’t pass the standards laid out by the contract, your products won’t make it to the government programs that need them, and you won’t get paid.

The DoD must verify that they’ve obtained the correct products, but they also must determine whether or not the shipment conformed to all aspects of the contract obligation.

If MIL STD 129 is called out in the contract, a few critical things must be in place in order for DCMA to accept the shipment:

1. *An RFID tag must have been embedded as part of the Military Shipping Label (MSL). People mistakenly believe that MIL STD 129 requires additional barcodes, but not necessarily RFID tags. Encoding assets with an RFID tag requires a special label stock that includes embedded microchips, applied via a specialized thermal transfer printer.*

2. *IUID tags must be affixed to the right items, parts, or components.*

3. *Tags must be capable of being scanned with a 2D barcode reader and the barcode must conform to the MIL STD 130 syntax.*

4. *Tags must be verified to all quality standards with Certificates of Conformance to prove to the auditors that a satisfactory grade was achieved when verified.*

5. *Every tag must be registered electronically which means that iRAPT and the IUID Registry has all of the data necessary to allow the DoD programs to manage these assets and shipments from within their own systems.*

Every aspect of the shipment and the items within it are subject to scrutiny. The job is not complete on the shipment date; it must be identified and marked according to the correct MIL STD when received. Without taking these steps, payment may be severely delayed or the shipment may be rejected entirely.

## **CONCLUSION**

The threats these misconceptions pose are growing exponentially, with DCMA making compliance one of their top priorities this fiscal year, obtaining an understanding of these requirements and how they apply to your organization is of critical importance.

I hope this article has helped clarify and bring to light some concerns that may have a direct effect on your organization as a DoD contractor.

## **ABOUT THE AUTHOR:**

**Pat Jacklets, CPPM, CF**, is a recognized industry expert on Property Management with over thirty-five years experience. Pat is the subject matter expert on Property Management for A2B Tracking Solutions focused on providing essential support for the Property Manager by providing a powerful cloud-based Property Management System called UC! Web™ that provides the ability to track and trace every asset seamlessly throughout its lifecycle. Pat has been a member of NPMA since 1980 and has held various positions at the chapter, region and national levels including Vice President of Professional Development. She was also a member of the NPMA Board of Advisors from 2009-2012. She received the prestigious Jack Griffins Property Person of the Year Award in 2006. Pat is currently the Administrator of the NPMA Foundation.