



Products Inspired by the United States Armed Services

Product Origins

The U.S. Marine Corps solicited the development of a flexible packaging system to replace their existing method of preservation packaging for anti-corrosion protection of refurbished M-16 Rifles. The new system needed to increase packaging speed and provide equivalent or superior corrosion inhibiting properties to the existing package (weapon wrapped in MIL-PRF-3420G paper and heat sealed inside a MIL-B-117, TY I, CL E, ST 1 barrier bag; MIL-PRF-131).

To achieve this goal, Heritage Packaging developed a new type of material, BluGuard-VCI™. A material that combines the VCI properties, and barrier properties of two materials into one. Using this new material, Heritage Packaging designed a new package that exceeded all of the performance requirements of the military, and was awarded the Flexible Packaging Association's Gold Award for Technical Innovation.

Heritage Packaging recognized that this technology could be easily transferred to the commercial marketplace, and developed a set of more modular products to be branded as ZCORR Products. ZCORR Products utilize identical VCI and barrier packaging technology as tested by the military to provide the ultimate in corrosion protection.



**LONG TERM STORAGE & PRESERVATION M16 RIFLE BAG
FEATURING A REUSABLE CLOSURE & SERIAL NO. WINDOW (P/N HPV-81503-M-16)
National Stock Number (NSN): 8465-01-540-1753**

M16 Rifle Bag Testing

The Marine Corps needed to compare Heritage Packaging's new system to their existing system. Testing was conducted by USAMC LOGSA PSCC in Tobyhanna, PA during the spring & summer of 2003. Test samples were subjected to;

- a. Cold Temperature (-40 F, 24 Hour Duration)
- b. Temperature Shock (-40 F to 95 F)
- c. 1 High Temperature Cycle (91 to 160 F, 24 Hour Duration)
- d. Ten 24 Hour High Temperature / High Humidity Cycles (86 to 140 F, 95% RH)
- e. Free Fall Drop Test (2 Flat Faces From 3 Feet)
- f. Loose Cargo Vibration, Repetitive Shock (1 Hour Duration)
- g. Handling Throughout Testing and Inspection

Test Results

The test center in Tobyhanna deemed; "Bag very durable & easy to use; No detectable rust/corrosion on any rifle; No condensation/dampness inside any bag; Bag remained unchanged by environments (not saturated, repelled condensation); Performed equal to or better than MIL-PRF-131 with MIL-PRF-3420 in preventing rust/corrosion of M16 rifles under varying environmental exposures." Additionally, packaging productivity was increased from 3 rifles per hour to 4-6 rifles per minute.

Test Facility Photos

