

MLRS

<b>REQUEST FOR VARIANCE (RFV)</b>		<b>1. DATE PREPARED</b> (DD-MMM-YYYY) 13-May-2015	<b>2. PROCURING ACTIVITY NUMBER (PAN):</b> N00104	OMB No. 0704-0188
		<b>3. RFV NUMBER:</b> FY15-D033		
The public reporting burden for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Executive Services Directorate, Information Management Division, 4800 Mark Center Drive, Alexandria, VA 22350-3100 (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. <b>PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THIS ADDRESS. RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.</b>				
<b>4. TITLE OF VARIANCE:</b> CKU-5C/A (JM60) Launcher tube assembly epoxy				
<b>5. RFV PRIORITY:</b> <input type="checkbox"/> E - Emergency <input type="checkbox"/> U - Urgent <input checked="" type="checkbox"/> R - Routine		<b>6. VARIANCE PRE-OR POST-PRODUCTION:</b> <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Post-Production		<b>7. BASELINE AFFECTED:</b> <input type="checkbox"/> Functional <input type="checkbox"/> Allocated <input checked="" type="checkbox"/> Product
<b>8. SYSTEM INFORMATION</b>	<b>a. MODEL/TYPE DESIGNATION</b> (ex: M-16): CKU-5C/A	<b>b. SYSTEM/CONFIGURATION ITEM NOMENCLATURE</b> (ex.: Rifle): Rocket Catapult	<b>c. END ITEM CAGE CODE:</b> 14083	
<b>9. AFFECTED ITEM NOMENCLATURE</b> (ex: Bracket): Launcher Tube Assembly		<b>10. PART NUMBER(S). OF AFFECTED ITEM(S):</b> 11726800 rev G		
<b>11.a. OTHER EXTERNAL SYSTEM AFFECTED:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<b>b. IF BLOCK 11.a. IS YES, LIST OTHER SYSTEMS OR CONFIGURATION ITEMS AFFECTED:</b>		
<b>12. CLASSIFICATION OF DEFECT(S)</b>	<b>a. DEFECT CLASSIFICATION:</b> <input type="checkbox"/> Critical <input type="checkbox"/> Major <input checked="" type="checkbox"/> Minor	<b>b. DEFECT NO.:</b>	<b>c. DOCUMENT DEFINING DEFECT CLASS:</b>	
<b>13. DESCRIPTION OF VARIANCE:</b> Required: DWG 11726800 rev G, Find #3, MIL-R-9300B, Type 1, Grade 0, Form A resin, epoxy, low-pressure laminating Requested: Add DOW DER 330 as an alternate material. Please see attached for more information.				
<b>14. NEED FOR VARIANCE:</b> According to several vendors, MIL-R-9300B, Type 1, Grade 0, Form A epoxy resin is no longer readily available. DOW DER 330 has been demonstrated to be a viable alternative.				
<b>15. CORRECTIVE ACTION TAKEN:</b> E25 to revise DWG 11726800 to incorporate this change.				
<b>16. EFFECT ON PERFORMANCE, FUNCTION, RELIABILITY, DURABILITY, INTEGRATED LOGISTICS SUPPORT, INTERFACE OR SOFTWARE:</b> None				
<b>17. RECURRING VARIANCE:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<b>18. EFFECTIVITY</b> (Quantity affected, Lot Number affected, Serial Numbers, Dates): Solicitation N00104-15-R-K018		
<b>19. PER UNIT COST IMPACT:</b> None		<b>20. TOTAL COST IMPACT:</b> None		<b>21. EFFECT ON DELIVERY SCHEDULE IF REJECTED:</b> Delay in issuing solicitation
<b>22. CONTRACT INFORMATION</b>	<b>a. CONTRACTOR:</b> Not yet determined		<b>b. CONTRACT NO. AND LINE ITEM:</b> Not yet determined	
<b>23. CONTRACTING OFFICER</b>	<b>a. NAME:</b> Ashley Leonard	<b>b. TELEPHONE:</b> (717) 605-1686	<b>c. E-MAIL:</b> ashley.leonard@navy.mil	
<b>24. ORIGINATOR</b>	<b>a. NAME:</b> Jon Kilikewich		<b>b. ADDRESS (Street, City, State and ZIP Code):</b> 4393 Benson Rd RM 401 Indian Head MD 20640	
<b>c. RFV ORIGINATOR CAGE CODE:</b> 14083	<b>d. TELEPHONE:</b> 301-744-1858		<b>e. E-MAIL:</b> jon.kilikewich@navy.mil	
<b>25.a. SUBMITTING ACTIVITY:</b> NSWCHEODTD	<b>b. NAME AND TITLE:</b> Edgardo Hernandez, Mgr. ISE Branch		<b>c. AUTHORIZED SIGNATURE:</b>  Date: 2015.05.18 21:07:50 -04'00'	
<b>BELOW TO BE COMPLETED BY THE APPROVING ACTIVITY</b>				
<b>26.a. RECOMMENDATIONS</b> <input type="checkbox"/> Approval <input type="checkbox"/> Approval with Modification <input type="checkbox"/> Disapproval				
<b>b. NAME AND TITLE:</b>		<b>c. DATE SIGNED</b> (DD-MMM-YYYY)	<b>d. SIGNATURE</b>	
<b>27.a. DISPOSITION</b> (Configuration Change Authority) <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Approved with Modification <input type="checkbox"/> Disapproved				
<b>b. NAME AND TITLE</b> <b>Phillip Sturgill, Technical Warrant Holder</b>		<b>c. DATE SIGNED</b> (DD-MMM-YYYY) <b>22 MAY 2015</b>	<b>d. SIGNATURE</b> <b>STURGILL.PHILLIP.R</b> <b>.1229649465</b>	

### 13. Description of variance.

Required: DWG 11726800 rev G, Find #3, MIL-R-9300B, Type 1, Grade 0, Form A resin, epoxy, low-pressure laminating

Requested: Add DOW DER 330 as an alternate material.

Chuckling Machine Company has produced launcher tube assemblies for NSWCIHEODTD, NammoTalley, and United Technologies Corp, using a substitute material, DOW DER 330. Although it is not certified to MIL-R-9300B, it is chemically identical and has been proven to be suitable for use through live testing. See RFDs K108-D003 R2 and K112-D001 R1 for results of qualification testing done by UTAS and NammoTalley.

MIL-R-9300B requires testing of many properties that are not substantial to our use. In the CKU-5 launcher tube, the fiberglass/epoxy winding is used as an insulator, protecting the actual tube from damage during firing. During firing, the fiberglass is consumed; in most cases only small fragments remain. MIL-R-9300B epoxy was primarily intended for structural applications (masts, antennae, and other exposed locations). As such, it includes testing of samples that have been weathered for a year, immersed in various solvents, and boiled in water. None of these tests are applicable to the conditions that the epoxy/fiberglass would be exposed to in this system.

Below is a table of the properties required by MIL-R-9300B, and a comparison to the proposed substitute, DOW DER 330. Although the reported values for flexural and tensile strength are lower than what is required by the specification, the test results are highly dependent on the fibers used in the sample. In this application, since the fiberglass is not being used as a structural member, meeting those mechanical properties is not necessary. Functional testing has demonstrated that fiberglass made with DER 330 is capable of successfully insulating the launcher tube during firing.



Tested at 70C, after exposure to 70C for 0.5 hours	Spec requirement			Reported values for Dow DER 330			
flexural properties, flatwise							
	ultimate strength	65000	psi				
	initial modulus of elasticity	3200000	psi				
<b>Tested after immersion in fluid</b>							
MIL-H-5606 hydraulic fluid							
	change in weight	0.2	% (max)				
	change in thickness	0.2	% (max)				
	ultimate flexural strength	70000	psi				
TT-I-735 isopropyl alcohol							
	change in weight	0.2	% (max)				
	change in thickness	0.2	% (max)				
	ultimate flexural strength	70000	psi				
TT-S-735 standard hydrocarbon, type III							
	change in weight	0.2	% (max)				
	change in thickness	0.2	% (max)				
	ultimate flexural strength	65000	psi				

Tested after 1-year outdoor weathering	Spec requirement			Reported values for Dow DER 330			
flexural properties, flatwise							
	ultimate strength	65000	psi				
	initial modulus of elasticity	3200000	psi				