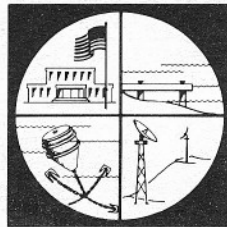


# TECHDATA SHEET

## key-operated security locks and hasps



Because of recent changes in DOD requirements, lock specifications, and security directives, there is considerable confusion among users as to what constitutes a "high," "medium," or "low (secondary)" security lock. The Civil Engineering Laboratory has investigated this subject, and the following findings are presented to clarify the terms as they pertain to DOD users; Table 1 summarizes the findings. Keep in mind that a high or medium security padlock provides the specified degree of security ONLY when it is used with a high security hasp. A \$60 High Security padlock attached to a 50¢ hasp provides only 50¢ worth of security. Additionally, a high security lock and hasp system realizes its full potential only when it is properly installed on a strong door with appropriate hardware.

### HIGH SECURITY

#### Padlocks

Military Specification MIL-P-43607D sets the highest level of performance for any of the key operated padlocks specified for use by the DOD. The lock must be

able to resist forcible entry for at least 7 minutes and surreptitious entry for at least 30 minutes of picking time. The only lock currently procurable under this specification is the Sargent and Greenleaf (S&G) Model 831B shrouded shackle padlock (Figure 1). This lock has a throat height opening of approximately 21/32 inch, whereas locks manufactured prior to 1976 are approximately 27/32 inch in throat height.

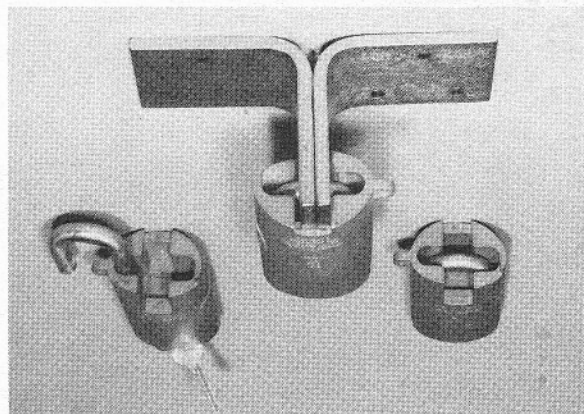


Figure 1. Sargent & Greenleaf (S&G) Model 831B high security padlock and a Style 3 high security hasp.

This change is not reflected in the stock number. An early version of this lock plus the S&G 844B (identical except for different throat width) that are still in service are

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considered to meet the needs for high security (Figure 2). They are to be replaced by the 831B only as they wear out or are downgraded by specific directive.

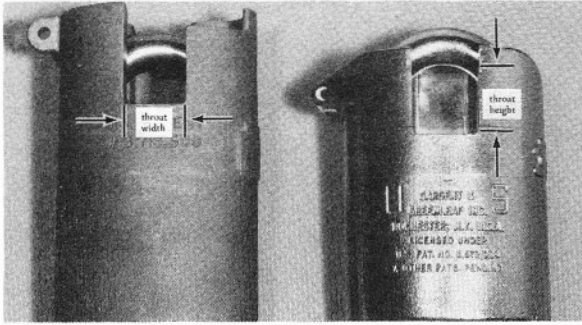


Figure 2. The S&G Model 844B is shown on the left. (It is identical to the 831B, except for the throat width which is 0.75 inch for the 831B and 0.844 inch for the 844B.) An early version of the 831 is shown on the right. (It has a three-quarter shroud and a throat height opening of 1-1/16 inches.)

### Lock, Exterior, Ordnance

The only locking device currently qualified under Military Specification MIL-L-29151 is the BMR TUFLOC, XR Series, which is available in four configurations (Figure 3). The locks shown are the improved version that became available in 1977. This version has C-1 stamped in the lower portion of the right wing next to the face of the central bolt assembly.

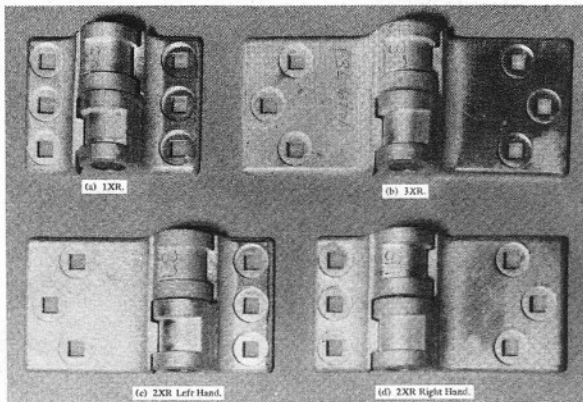


Figure 3. BMR TUFLOC high security locks.

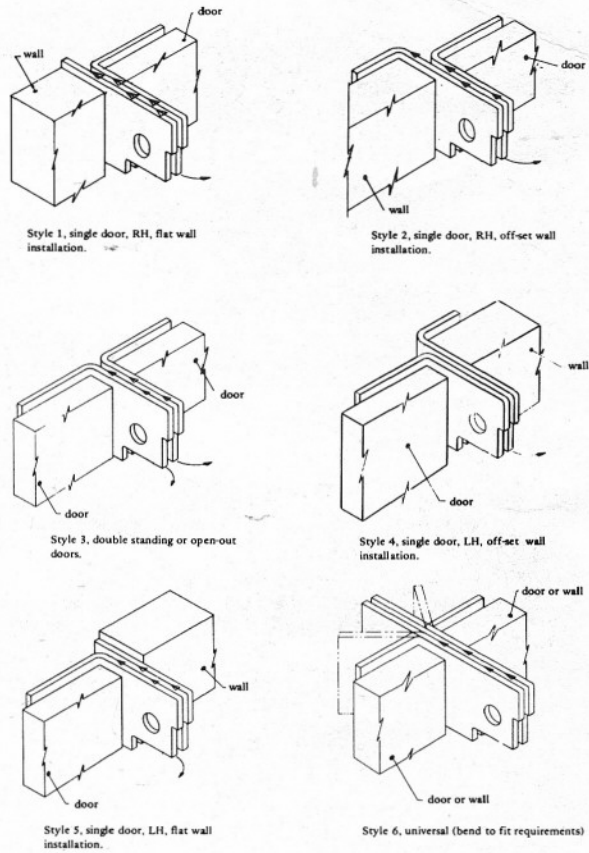


Figure 4. Six variations of the Army Natick Lab high security hasp.

### Hasps

The Army Natick Laboratory MIL-H-43905A High Security Hasp (Figure 4) is made of carbon steel and is available in six styles. Two of the styles, no. 8 and 9, are available in stainless steel specifically for Navy shipboard use. A new shrouded hasp has been developed by CEL and is in limited procurement for nuclear weapons security applications. This is the MIL-H-29181(YD) "Hasp, High Security, Shrouded, for High and Medium Security Padlock." It is available in two styles. Style 1 (see Figure 5) is the "hasp, high security hinged or sliding, horizontal right hand" and Style 2 (see Figure 6) is the left hand version. The hasps are investment cast from ASTM A296, grade CA-6NM alloy.



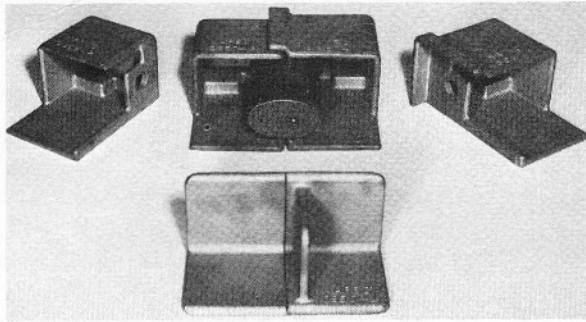


Figure 5. MIL-H-29181(YD) Style 1. High security shrouded hasp. Right hand style for use on sliding and hinged doors.

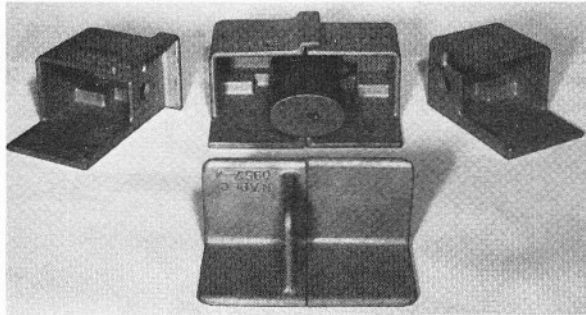


Figure 6. MIL-H-29181(YD) Style 2. High security shrouded hasp. Left hand style for use on sliding and hinged doors.

## MEDIUM SECURITY

The only padlocks currently qualifying under the new Specification MIL-P-43951 are in the S&G Model 826 series (Figure 7). These locks are essentially the same as the Model 831 except that the shackle is not protected by an integral shroud. They provide the same resistance to surreptitious entry as the Model 831, but are less resistant to forcible entry because of the exposed shackle. There are two styles of the MIL-P-43951 in use. Style 1 (Figure 7a) has a 3/8-inch diameter shackle and Style 2 (Figures 7b and c) has a 1/2-inch diameter shackle. The change in shackle throat height opening which can be seen in Figures 7b and 7c was made in 1975.

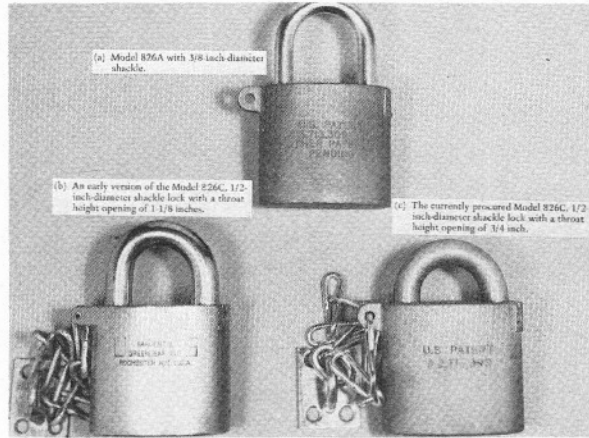


Figure 7. S&G Model 826 series medium security padlocks.

## LOW SECURITY (SECONDARY)

A variety of commercial padlocks, a few of which are shown in Figure 8, are procured under Specification MIL-P-17802D. These locks are called out for use in applications having nominal resistance to forcible entry (no minimum time specified) and from 40 to 60 seconds of resistance to picking.

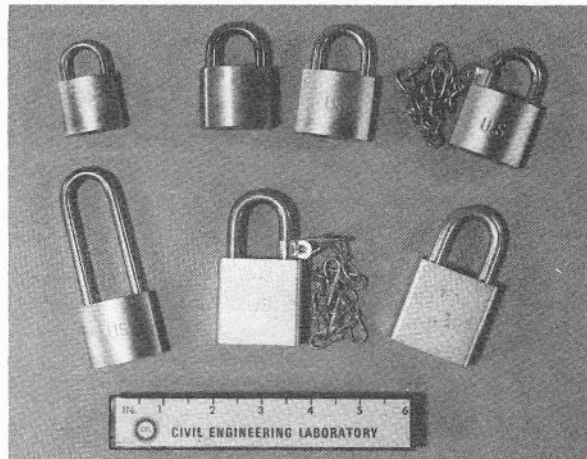


Figure 8. Samples of low (secondary) security padlocks presently being delivered through the Navy supply system.

These locks are frequently specified for use on perimeter fence gates and gun racks in armories. Padlocks covered by this specification are of three grades.

- Grade I - Brass or bronze shackle and case
- Grade II - Hardened steel shackle and steel case
- Grade III - Hardened steel shackle and brass or bronze case

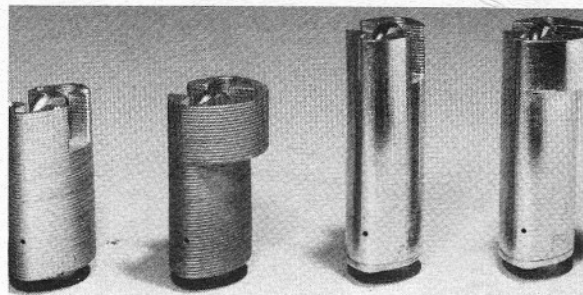


Figure 9. Specimens of Miracle and S&G/Ingersoll padlocks previously procured under MIL-P-43607.

The majority of the laminated and brass padlocks found in ships' stores, Servmarts, and the supply channels do not have a military specification. They are not considered effective in terms of security and should be used only for convenience or privacy.

### IN-SERVICE LOCKS

Over 25,000 Miracle, Ingersoll, and S&G/Ingersoll padlocks (Figure 9) have been procured under Military Specification MIL-P-43607 for use as high and medium security padlocks. A large number of them are still in service. Where new directives make mandatory the use of locks currently being procured under MIL-P-43607D, MIL-P-

43951, or MIL-L-29151, these older locks should be replaced. However, these are substantial locks that offer considerably more resistance to forcible and surreptitious entry than those required by MIL-P-17802D. Therefore, they are considered to be suitable (equal to or better than) substitutes for such locks.

### CEL CONTACT

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Table 1. Summary of Key-Operated Locks and Hasps Currently<sup>a</sup> in Use in the Navy

Level of Security	Type of Unit	Military Specification	Qualifying Unit	Navy Stock Number	Approx Cost (\$)	
High	Padlock	MIL-P-43607D	S&G Model 831B (1/2-in.-diam shackle)	5340-00-799-8248	60	
	Lock, exterior, ordnance	MIL-L-29151	BMR TUFLOC XR Series			
			60-1XR	5340-00-144-7310	77	
			60-2XR Right Hand	5340-00-144-7311	81	
			60-2XR Left Hand	5340-00-145-0293	78	
			60-3XR	5340-00-144-7359	84	
	Hasp	MIL-H-29181	Navy (shrouded)			
			Style 1 Right Hand Style 2 Left Hand	special order only <sup>d</sup> special order only <sup>d</sup>	55 - 70 <sup>e</sup> 55 - 70 <sup>e</sup>	
	Hasp	MIL-H-43905A	Army Natick Lab			
			Style 1 (carbon steel)	5340-00-178-7872	7	
Style 2 (carbon steel)			5340-00-178-7873	15		
Style 3 (carbon steel)			5340-00-178-7875	12		
Style 4 (carbon steel)			5340-00-178-7880	15		
Style 5 (carbon steel)			5340-00-178-7881	7		
Style 6 (carbon steel)			5340-00-158-0019	8		
Style 8 (stainless steel) <sup>b</sup>			1-H-5340-01-040-9676	32.50		
Style 9 (stainless steel) <sup>b</sup>			1-H-5340-01-040-9675	62		
Medium	Padlock	MIL-P-43951	S&G Model 826A (3/8-in.-diam shackle)	5340-00-492-1993	42 ea <sup>c</sup>	
			S&G Model 826C (1/2-in.-diam shackle)	5340-00-799-8016	42	
Low	Padlock	MIL-P-17802D	Many commercial models	over 40 stock no.	2.50 - 3.50	

<sup>a</sup>As of April 1979.

<sup>b</sup>Special designs for shipboard watertight doors. Style 8 similar to style 2, and style 9 similar to style 4.

<sup>c</sup>Sold in sets of 10 locks. Price per set \$412.00 (approx).

<sup>d</sup>Item is not in the supply system as of April 1979. Procurements through Naval Weapons Support Center, Crane, IN 47522, Code SEA 642513.

<sup>e</sup>Cost per set varies depending on the size of the lot manufactured.