

APPENDIX 4-A
STORAGE OF FERROMANGANESE
HIGH AND MEDIUM CARBON

1. DESCRIPTION

a. Ferromanganese is an alloy composed principally of manganese and iron. It is metallic in appearance and steel gray in color when first produced but changes to a black or brownish-black color as a result of oxidation. When acquired, High carbon ferromanganese shall meet purchase specification number P-30a, latest revision; medium carbon ferromanganese shall meet purchase specification P-108, latest revision.

2. PACKAGING

a. All high and medium carbon ferromanganese is received in bulk.

3. MARKING

a. Two metal embossed pile signs, with the pile number, material name, country of origin and major elements as specified by the DNSC-OL, shall be placed at each end of the pile.

4. STORAGE

a. High or medium carbon ferromanganese shall be stored on open, approved space equivalent to type D as described in chapter 5 of this manual.

b. Material will be segregated into piles by country of origin as indicated on instructions issued by the Directorate of Stockpile Operations at which time pile numbers will be assigned by the DNSC storage site.

c. In laying out the storage area, the pile shall be located so that a 25 foot clearance will be maintained between the toes of finished piles of ferromanganese and other ores. A minimum clearance of 5 feet is required between individual ferromanganese piles. Commingling of material is not permissible unless specifically authorized by DNSC-OL. All piles shall be so laid out as to be accessible for outloading.

d. All piles will be identified with signs. Temporary signs will be provided by the storage facility showing name of material and pile number. When piles are completed, permanent signs showing name of material, pile number, manganese content, and carbon content shall be used.

5. PRECAUTIONS TO BE TAKEN

a. HEALTH. Dust should be minimized during receipt and/or outloading of this material.

**APPENDIX 4-A
STORAGE OF FERROMANGANESE
HIGH AND MEDIUM CARBON**

b. GENERAL. There have been instances where lumps of the material have slowly decomposed into a powdery form. If transformation of any kind is detected during periodic inspections it should be reported through appropriate channels.

6. STORAGE FACTOR

a. Eight cubic feet per short ton.

FOR ADDITIONAL INFORMATION ON THIS COMMODITY, REFER TO THE MATERIAL SAFETY DATA SHEET OR THE MOST RECENT PURCHASE SPECIFICATION.