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MILITARY STANDARD
AMMUNITION COLOR CODING

FSC 1395

MIL-STD-709C

DEPARTMENT OF DEFENSE
WASHINGTON D.C. 20301

Ammunition Color Coding
MIL-STD-709C

1. This Military Standard is approved for use by all Departments and Agencies of the Department of Defense.
2. Recommended corrections, additions, or deletions should be addressed to Commander, Picatinny Arsenal, ATTN: SARPA-AD-E-C-3, Dover, New Jersey 07801.

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1. SCOPE

1.1 Scope. This standard establishes a color coding system for ammunition with the exception of ammunition under 1.1.1.

1.1.1 Exceptions.

This standard does not apply to the following ammunition:

- a. Ammunition of a caliber less than 20mm. 1/
- b. Blank ammunition.
- c. Cartridge cases.
- d. Propelling charges for fixed, semi-fixed, separated and separate loading ammunition.
- e. Commercial ammunition and explosives.
- f. Sectionalized or display models.
- g. Ammunition devices required to be inconspicuous when exposed to close range observation.
- h. Ammunition components and demolition accessories which normally do not require color coding for identification purposes.
- i. Fuzes
- j. Cartridge or propellant-actuated devices, initiators, igniters, detonators and other components of aircrew escape systems or aircraft external stores ejection systems.
- k. Proof or high pressure test ammunition.

1/ Color coding of ammunition less than 20mm is specified in the applicable ammunition drawings and specifications.

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1.1.1 Exceptions. (Continued)

1. Inert ammunition used in drill type training or for clearing automatic weapons and for which no protective coating is required or which has a cadmium plate/chromate treatment for the protective coating.

m. War reserve and training nuclear weapons and their containers. Required markings for these items are contained in the appropriate Joint Atomic Weapons Publications.

n. Ammunition in containers adequately identified as to contents and which ammunition is not visible to the user during handling or firing operations.

1.2 Packaging and Packing. Normally packaging and packing of ammunition do not require color coding. Color coding is required for packaging and packing of lethal and toxic chemical ammunition; the colors shall be in accordance with this standard.

2. REFERENCED DOCUMENTS.

2.1 Referenced documents. The issues of the following documents in effect on the date of invitation for bids form a part of this standard to the extent specified herein.

STANDARDS

Federal

FED. STD. No. 595 -- Colors.

Military

MIL-STD-444 -- Nomenclature and Definitions in the Ammunition Area

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions shall be obtained from the procuring agency or as directed by the contracting officer.).

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3. DEFINITIONS.

3.1 The definitions established in MIL-STD-444 apply to the terms used in this standard.

3.2 The following terms and definitions apply to this standard.

3.2.1 Binary munitions - Ammunition which contain two or more chemicals that remain separated until use. The ammunition is not lethal or explosive until mixed on demand or by shock (set back or impact).

3.2.2 Improved Conventional Munition (ICM). Ammunition which embodies a unique design to control the number, size, and distribution of fragments produced when functioned.

3.2.3 Binary Agent - Lethal agent produced by the reaction of non-lethal chemical constituents when mixed within an ammunition.

3.2.4 Incapacitating Agent - An agent that produces temporary physiological or mental effects, or both, which will render individuals incapable of concerted effort in the performance of their assigned duties.

3.2.5 Riot Control Agent - A chemical that produces temporary irritating or disabling effects when in contact with the eyes or when inhaled.

4. GENERAL REQUIREMENTS.

4.1 Colors

4.1.1 Colors of the ammunition color code and their interpretation shall be as shown in Table I. Colors used for camouflage or other purposes shall be distinctly different from those of the code, unless otherwise provided herein.

4.1.2 The colors specified herein shall match those of the corresponding numbers in FED. STD. No. 595, as shown in Table I, except that the first digit of the number may be changed in accordance with the ammunition requirements for a gloss, semi-gloss or a lusterless finish.

4.1.3 The color Olive Drab Green, hereafter called Olive Drab, FED. STD. No. 595 color number 34087, shall have no color coding significance within the scope of this standard.

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4.2 Application of color coding.

4.2.1 Color coding of new production and of existing stocks, when repainting, remarking or both repainting and remarking are required for maintenance purposes, shall be in accordance with applicable ammunition drawings. These drawings, in turn, shall incorporate the color coding requirements of this standard. Repainting of current stocks merely to comply with this standard is not required.

4.2.2 Color coding shall be applied to ammunition in the following manners, except as provided in 4.3:

- a. Preferably as the color of the normal protective coating (overall body color), or,
- b. As the color of the main identification markings, or,
- c. In the form of an appropriately colored circumferential band, approximately equal in width to one half the caliber or diameter of the ammunition except the width need not exceed two inches, or,
- d. By means of discs or squares, of the appropriate color, which shall be as large as possible consistent with the use and shape of the ammunition item.

4.2.2.1 A combination of manners of application may be used when Table I indicates a need for more than one color, for example, a high explosive projectile having an armor defeating capability.

4.3 Special Coding.

4.3.1 Chemical ammunition containing toxic chemical, incapacitating, or riot control chemical agents shall be colored gray as the normal protective coating (overall body color). An appropriate colored band around the circumference of the ammunition shall denote the type (class) of agent (i.e., toxic chemical, incapacitating or riot control). In addition, the main identification details, including the name or chemical agent symbol shall be marked in the same color as the band denoting the agent. Where practical, in addition to the stencil, the chemical agent symbol shall be metal stamped (engraved) in $\frac{1}{4}$ -inch or larger letters in the body of the munition. Camouflage paint shall never be used for ammunition containing toxic chemical, riot control, or incapacitating agents. See Table II.

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4.3.2 Missiles, missile components and tactical submunitions, which are overpacked in color coded launchers, dispensers, warheads, projectiles, or rocket motors need not be color coded. However, when color coding is applied, the color shall comply with this standard.

4.3.3 Semi-fixed and separate loading artillery ammunition containing mass scatterable mines shall be marked with a circumferential band of triangular shaped figures to indicate both an HE use and mass scatterable mine loaded ammunition. See Table II.

4.4 Materials. Color coding materials (e.g., paints, enamels, lacquers, marking inks, decals, or strippable tapes) shall be as required by the applicable ammunition drawings and specifications.

4.5 Data Marking. Data markings not otherwise specified herein, such as ammunition lot number and national stock numbers (NSN's), will be in the same color as other markings or in black or white.

5. DETAIL REQUIREMENTS. Applications of color, consistent with Table I, for specified ammunition are as shown in Table II. The details of Table II shall be complied with.

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TABLE I
AMMUNITION COLOR CODE

COLOR <u>4/</u> <u>5/</u>	FED.STD. No. 595	INTERPRETATION
Yellow	33538	Identifies High Explosive (HE) ammunition or indicates the presence of a high explosive.
Brown	30117 or 30140	Identifies low explosive items or components or indicates the presence of a low explosive.
Gray <u>1/</u>	36231	Identifies chemical ammunition containing a toxic chemical, incapacitating or riot control agent.
Dark Red	31136	Identifies a riot control agent filler.
Dark Green <u>1/</u>	34108	Identifies a toxic chemical agent filler.
Violet	17100	Identifies an incapacitating agent filler.
Black <u>1/</u> <u>3/</u>	37038	Identifies an armor defeating ammunition or indicates an armor defeating capability.
Silver/ Aluminum	17178	Identifies countermeasure ammunition (e.g. radar echo, leaflets).
Light Green <u>1/</u>	34558 or 34449	Identifies screening or marking smoke ammunition.

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TABLE I (Continued)

<u>COLOR</u>	<u>FED. STD. NO. 595</u>	<u>INTERPRETATION</u>
Light Red	31158	Identifies incendiary ammunition or indicates the presence of highly flammable material (liquids, jellies, solids), designed to produce damage by fire.
White <u>1/2/3/</u>	37875	Identifies illuminating ammunition or ammunition designed to produce a colored light.
Light Blue	35109	Identifies practice ammunition.
Orange	32246	May be used to identify ammunition used for tracking and recovery in tests or in training operations (e.g. underwater mines and torpedos.)
Bronze, Gold, Brass	17043	Identifies completely inert ammunition designed for use in activities such as assembly, testing, handling, drills, etc., and not designed to be delivered in a delivery system.

FOOTNOTES: The following colors when applied as stated below have no color coding significance:

- 1/ Colors GRAY, BLACK, GREEN or WHITE on underwater ammunition.
- 2/ Color WHITE on guided missiles, dispensers and rocket launchers.
- 3/ Colors BLACK or WHITE when used for lettering or special marking.
- 4/ Colors specifically applied to identify the color produced by smoke ammunition or pyrotechnics.
- 5/ Unpainted or natural color ammunition.

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TABLE II
APPLICATION OF COLOR CODING

<u>AMMUNITION</u>	<u>COLORS</u>		
	<u>Body</u>	<u>Marking 1/</u>	<u>Band</u>
High Explosive (HE), except 20MM	Olive Drab	Yellow	<u>2/ 3/ 4/ 5/</u>
High Explosive, (HE), 20MM	Yellow	Black	None
Explosive Binary Munitions	Olive Drab	Yellow	Broken <u>6/</u> Yellow
High Explosive Plastic (HEP)	Olive Drab	Yellow	Black
High Explosive Anti- tank (HEAT)	Black	Yellow	None
Antipersonnel and anti-tank mines	Olive Drab	Yellow	<u>3/</u>
Incendiary	Light Red	Black	None
High Explosive Incendiary (HEI)	Yellow	Black	Light Red
Armor Piercing Incendiary (API)	Black	White	Light Red
Armor Piercing (AP)			
(a) with bursting charge	Black	Yellow	None
(b) without bursting charge	Black	White	None
Canister	Olive Drab	White	None
Flechette loaded	Olive Drab	White	<u>7/ 8/</u>

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TABLE II (Continued)
APPLICATION OF COLOR CODING

AMMUNITION	COLORS		
	Body	Marking <u>1/</u>	Band
Illuminating <u>9/</u>			
(a) separate loading	Olive Drab	White	White
(b) fixed or semi-fixed	White	Black	None
Practice	Blue	White	
(a) with low explosive to indicate functioning			Brown
(b) with high explosive to indicate functioning			Yellow
(c) without explosive to indicate functioning			None
Screening or Marking			
Smoke Ammunition			
(a) Filled with other than white phosphorus	Light Green	Black	None
(b) Filled with white phosphorus	Light Green	Light Red	<u>10/ 11/</u>
Inert ammunition not designed to be delivered in a delivery system.	Bronze	Black	None
Chemical			
(a) Filled with a riot control agent	Gray	Red	1 Red <u>10/</u>
(b) Filled with an incapacitating agent	Gray	Violet	1 Violet <u>10/</u>
(c) Filled with a toxic chemical agent other than binary agents.	Gray	Dark Green	1 Dark Green <u>10/</u>

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TABLE II (Continued)
APPLICATION OF COLOR CODING

AMMUNITION	COLORS		
	Body	Marking 1/	Band
Chemical (d) Filled with a toxic chemical binary nerve agent.	Gray	Dark Green	1 Broken Dark Green <u>10/</u> <u>12/</u>

FOOTNOTES:

- 1/ The letters and figures normally used for the main identification details.
- 2/ A circumferential band of yellow diamond shaped figures is applied to semi-fixed and separate loading Improved Conventional Munitions.
- 3/ A circumferential band of yellow triangular shaped figures is applied to mass scatterable mine loaded semi-fixed and separate loading ammunition.
- 4/ Separate loading ammunition for shipboard use shall have a yellow band in addition to the yellow marking.
- 5/ Bombs shall have one yellow band except thermally protected bombs shall have two yellow bands in addition to the yellow markings.
- 6/ A circumferential broken yellow band, consisting of one-half inch segments separated by one-half inch gaps, is applied to explosive binary munitions.
- 7/ A circumferential band of white diamond shaped figures is applied to ammunition containing flechettes.
- 8/ Yellow band is applied when the ammunition contains explosive designed to fracture the projectile.
- 9/ Both (a) and (b) color applications are standard. However, for land ammunition use, separate loading ammunition shall be colored olive drab as the overall body color with a white band and the main identification details marked white, and fixed and semi-fixed ammunition shall be colored white as the overall body color with the main identification details in black.

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TABLE II (Continued)

FOOTNOTES:

- 10/ Yellow band is applied when an high explosive burster is present.
- 11/ Separate loading ammunition for shipboard use shall have black markings and a light red band.
- 12/ Toxic chemical agent ammunition containing a Binary nerve agent filling shall be indicated by a broken dark green band having one-half inch segments separated by one-half inch spaces.

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6. SYMBOLS

6.1 Tracer. The presence of a tracer shall be indicated by a hyphenated letter T in the nomenclature, e.g., HE-T. That letter may also be placed elsewhere on the ammunition singly or as a circumferential band of T's.

6.2 Color Effect. The color or colors produced by ammunition shall be indicated by symbol, when required for tactical reasons.

6.2.1 The color effect(s) shall be indicated by the symbol "C" repeated at least three (3) times in the color approximating that of the effect produced. When so used, these colors shall have no other coding significance.

6.2.2 Items ejecting more than one star shall be marked by parallel rows of the symbol "C" one row for each star and each row in the appropriate star color.

6.2.3 Items ejecting stars where the quantity is of no significance shall be marked with the symbol "MULTI".

Certain provisions of this standard are the subject of international standardization agreements NATO STANAG 2321 - NATO Code of Colours for the Identification of Ammunition (Except Ammunition of a Calibre Below 20mm) and NATO STANAG 2322 - Minimum Markings for the Identification of Ammunition (and its packaging). When revision or cancellation of this standard is proposed, which will affect or violate the international agreement concerned, the preparing activity will take appropriate reconciliation action through international standardization channels, including departmental standardization offices, if required.

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