Designation: ~~D83 – 84 (Reapproved 2008)$^{\varepsilon 1}$~~ D83 – 84 (Reapproved 2014)

Standard Specification for Red Lead Pigment[1]

This standard is issued under the fixed designation D83; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

~~ε[1] NOTE—The units statement in subsection 1.2 was corrected editorially in July 2008.~~

1. Scope

1.1 This specification covers four grades of red pigment commercially known as red lead. The pigment may be purchased in the dry form or as a paste in oil.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D49 Test Methods of Chemical Analysis of Red Lead
D185 Test Methods for Coarse Particles in Pigments
D1208 Test Methods for Common Properties of Certain Pigments

3. Composition and Properties

3.1 *Dry Pigment*—The pigment shall be made by roasting litharge or metallic lead, or compounds of lead that yield litharge by heating, and shall consist entirely of oxides of lead, free of adulterants. The four grades of pigment shall conform to the following requirements:

True red lead (Pb_3O_4), min, %:	
85 % grade	85
95 % grade	95
97 % grade	97
98 % grade	98
Total impurities including moisture, water soluble matter, and matter insoluble in a mixture of nitric acid and hydrogen peroxide, max, %	1.0
Lead monoxide, PbO	remainder
Coarse particles (total residue retained on a 45-μm (No. 325) sieve), max, %	1.0

When mixed as indicated in the following table, the resulting paint, brushed on a smooth vertical iron surface, shall dry hard and elastic without running, streaking, or sagging:

Dry red lead	20 lb (9.1 kg)
Raw linseed oil	5 pt (2.4 L)
Turpentine	2 gills (0.24 L)
Liquid drier	2 gills (0.24 L)

3.2 *Paste in Oil*—The paste shall be made by thoroughly grinding the specified pigment with linseed oil (Note 1). The paste as shipped by the seller, and for three months thereafter, shall not be caked in the container, and shall break up readily in oil to form a smooth paint of brushing consistency. The paste shall conform to the following requirements:

Pigment, %	92 to 94
Linseed oil, %	6.0 to 8.0
Moisture and other volatile matter, max, %	0.5
Coarse particles and skins (total residue retained on a No. 325 (45-μm) sieve), max, % of the dry pigment	1.5

[1] This specification is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.31 on Pigment Specifications.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the ~~standard's~~standard's Document Summary page on the ASTM website.