15A NCAC 18E .1403 TANK MATERIAL REQUIREMENTS

(a) Tanks approved in accordance with this Section shall be constructed of materials capable of resisting corrosion from sewage and sewage gases, structurally sound, and watertight.

(b) Reinforced precast concrete tanks shall meet the following minimum material and construction requirements:

(1) the ends and sides of the tank shall have a minimum thickness of two and one-half inches. The top and bottom of the tanks shall be a minimum of three inches thick;

(2) the top, bottom, end and sides of the concrete tank and tank lid shall be reinforced by using a minimum reinforcing of six-inch by six-inch No. 10 gage welded steel reinforcing wire. Reinforcement shall be placed to maximize the structural integrity of the tank;

(3) alternative reinforcement designs may be used when they perform in a manner equal to or more effective than the reinforcement design described in Subparagraph (2) of this Paragraph;

(4) when the concrete tank, tank lid, riser, or riser cover are subjected to vehicular traffic, the tank shall be designed by a PE to handle the traffic load in accordance with ASTM C890;

(5) any tank installed deeper than three feet shall be designed by a PE for the proposed tank burial depth. The tank design shall be submitted to the Department for review. The design shall be approved when documentation is provided to show that the proposed tank design can withstand all active and passive loads on the tank, including the additional soil weight from a deeper burial depth.

(6) the concrete shall achieve a minimum 28-day compressive strength of 4,000 psi. The concrete shall meet a compressive strength of 3,500 psi prior to removal of the tank from the place of manufacture. It shall be the responsibility of the manufacturer to certify that the tank meets this condition;

(7) tanks manufactured in multiple sections shall be joined and sealed at the joint by using butyl rubber or other pliable sealant meeting ASTM C990 or other material that has been approved by the Department when documentation has been provided to show that the material meets all performance requirements of ASTM C990. Documentation shall also be provided to the Department to show that the material is waterproof and corrosion resistant; and

(8) tank lids and riser covers shall have a durable handle made of corrosion-resistant materials and capable of pull capacity sufficient for the weight of the lid or cover.

(c) Thermoplastic tank materials shall conform with IAPMO/ANSI Z1000 or CSA B66 requirements.

(d) Glass-fiber-reinforced polyester tanks shall meet the following requirements:

(1) top, bottom, ends, and sides of the tank shall have a minimum thickness of one-fifth inches. The baffle wall shall be a minimum of 3/16-inches thick;

(2) material and laminate requirements specified in IAPMO/ANSI Z1000 or CSA B66 for glass-fiber-reinforced polyester tanks; and

(3) enrolled in a third-party quality assurance and quality control program, which include material testing and unannounced annual audits.

(e) Cast or manufactured in place tanks shall be designed by a PE, if required by G.S. 89C, and approved by the Department when the tank design, construction, and materials meet the criteria set forth in this Rule and Rule .1402 of this Section.

History Note: *Authority G.S. 130A-335(e), (f), and (f1);*
Eff. January 1, 2024.