



16750
CG-BSX-23 Policy Letter 25-02
22 Jan 2025

From: Brent R. Schmadeke, CAPT
COMDT (CG-BSX)

To: Distribution

Subj: ACCEPTANCE OF 22 AWG WIRE IN COMMUNICATION SYSTEMS AS EQUIVALENT
TO THE REQUIREMENTS FOUND IN 33 CFR 183.425

Ref: (a) 46 U.S.C. § 4305; Exemptions and Equivalents
(b) 33 CFR 183.425(d)
(c) 42 Federal Register 5941 (January 31, 1977)
(d) 33 CFR 183.425(g)
(e) 33 CFR 183.455
(f) DHS Delegation #00170.1 Rev. 01.4

1. Purpose. This policy letter sets the conditions for the acceptable use of wire gauge smaller 18 AWG as specified in Reference (b) in powered communication backbone systems such as NMEA 2000.
2. Background. The United States Coast Guard (USCG) has been delegated the statutory authority under references (a) and (f) to accept a substitution for associated equipment performance or other safety standards for a recreational vessel if the substitution provides an equivalent level of safety. The Coast Guard administers this authority directly, without implementing regulations.
 - a. The regulations in reference (b) limit wire gauge to no smaller than 18 AWG. The purpose of regulating minimum conductor size is to ensure sufficient mechanical strength of the conductor, as implied in regulation by allowing 18 AWG wires only when used in a multiconductor sheath and confirmed by the Coast Guard's response to comments contained in Ref (c).
 - b. Communication backbones, such as NMEA 2000, have been safely in use aboard recreational and commercial vessels for decades with wire size as small as 22 AWG when contained in the powered backbone conductor.
3. Discussion. Cable constructed for use in communication backbones may only be used in direct current applications under 5 amps. Additionally, it must be used only in integrated power supply applications for networking, control and communications systems such as NMEA 2000. When used in this capacity, conductors #18 AWG and larger will be provided with over current protection in accordance with reference (e). For cables with conductors

Subj: ACCEPTANCE OF 22 AWG WIRE IN
COMMUNICATION SYSTEMS AS EQUIVALENT TO
THE REQUIREMENTS FOUND IN 33 CFR 183.425

16750
CG-BSX-23
Policy Letter 25-02

smaller than #18 AWG the over current protection shall not exceed 3 Amperes for #22 AWG and 5 Amperes for #20 AWG.

4. Contact Us. Requests for equivalency determinations to requirements found in 46 USC 43 or 33 CFR Subpart S or questions concerning recreational vessel regulatory compliance should be directed to COMDT (CG-BSX-23) Office of Auxiliary & Boating Safety at rbscompliance@uscg.mil.

Dist: COMDT (CG-BSX)
COMDT (CG-CVC)
COMDT (CG-ENG)
COMDT (CG-MSC)
Transport Canada
American Boat & Yacht Council (ABYC)
National Marine Electronics Association (NMEA)
National Marine Manufacturers Association (NMMA)