

National Electrical Safety Code Committee, Accredited Standards Committee C2

National Electrical Safety Code[®]

Interpretation

Section 26. Strength Requirements

Rule 261 D4a Longitudinal Strength (7 July 2000) IR 520

I need a formal interpretation of NESC 261 D4a (longitudinal strength requirement for grade B crossarms).

1. It is my interpretation that the NESC is requiring that the crossarm (if doubles are used, each crossarm) for grade B construction be able to withstand a longitudinal tension of 700 lbs applied at the outer attachment point regardless of the actual tension of the line.
2. Is it intended that where a three phase line has conductors exceeding 2000 lbs that the grade B crossarm (if doubles are used, each crossarm) have a strength proportional to the tension increase over 2000 lbs (i.e., for a 3000 lb line the required longitudinal strength required be $700 \times 3000 / 2000 = 1050$ lbs at the outer attachment point).

Interpretation

The Interpretations Subcommittee has considered the subject Interpretation Request and has developed a consensus report as follows, in response to your statement and question regarding longitudinal strength requirements for Grade B wooden crossarms.

“Two rules apply to your statement 1). Wooden crossarms must meet both a) actual loadings as stated in Rule 261D2a(1), and b) a minimum of 700 lbs applied at the outer attachment point as stated in Rule 261D4a(1)(a). In other words, wooden crossarms must meet the greater of Rule 261D2a(1) or Rule 261D4a(1)(a) loadings. Both rules apply to both grade B and C construction.

In answer to your question 2), it is not intended that the Rule 261D4a(1) strength requirements be increased on a proportional basis where conductor tensions exceed 2000 lbs. A similar question regarding crossarm strength requirements has been considered. The response, which is also applicable in this case, was as follows: ‘For conductor tensions above 2000 lbs, no particular construction is specified as being considered to meet the requirements of the rules; it is the designer’s responsibility to ensure compliance with the fiber stress limit.’ See IR 376, November 6, 1985.”