

**NC Department of Insurance  
Office of the State Fire Marshal - Engineering Division  
1202 Mail Service Center, Raleigh, NC 27699-1202  
919-647-0001**

**Ceiling Boxes for Paddle Fans**

**Code:** 2020 Electrical Code  
**Sections:** 314.27(C)

**Date:** November 1, 2021

**Question 1:**

Are all outlet boxes installed in the ceilings of habitable rooms considered to be acceptable for the installation of a ceiling-suspended (paddle) fan?

**Answer 1:**

Boxes that possess any of the following characteristics are not considered as located in a location that is acceptable for the installation of a ceiling-suspended (paddle) fan:

- (1) Boxes containing wiring for the connection of smoke, carbon dioxide, or similar alarm or detection equipment.
- (2) Where any part of the box is within 36 inches from a wall, fixed cabinet, soffit, or similar that extends vertically from the ceiling at least 18 inches
- (3) By special permission where the inspector deems installation of a paddle fan impractical

**Question 2:**

How can an outlet box provide access to structural framing as described in section 314.27(C)(2)?

**Answer 2:**

The most common approach consists of using a metal box that has the mounting holes fabricated in the back and positioning the box so that the framing is accessible from such holes. The idea is to allow for wood or self-tapping screws to access the framing and carry the weight of a paddle fan by the mounting bracket (typically 3" wood screws are provided by the manufacturer) should a fan be installed.

**Question 3:**

Can a wood 2x4 be installed between ceiling joists to create structural framing as described in section 314.27(C)(2)?

**Answer 3:**

There is nothing in the Code that prohibits such practice. The installer must ensure that the installation is capable of supporting a fan.