**Interpretation of**

**ANSI/AMCA Standard 99-2016**

**Standards HandBook**

**Section 8, Classification for Spark Resistant Construction**

(Approved 11/9/22)

**Request from:** Kaitlin Brown, Portsmouth Naval Shipyard, Kittery, ME 03904

**Reference**: The request for interpretations refers to the requirements presented in AMCA 99-16, Section 8, Classification for Spark Resistant Construction related to Type B Construction – Fan only.

**Background:** The standard for Fans, Type B Spark Resistant Construction states,

“The fan shall have a nonferrous impeller and nonferrous ring about the opening through which the shaft passes. Ferrous hubs, shafts and hardware are allowed, provided construction is such that a shift of impeller or shaft will not permit two ferrous parts of the fan to rub or strike. Steps must also be taken to assure that the impeller, bearings and shaft are adequately attached and/or restrained to prevent a lateral or axial shift in these components.”

**Interpretation:** 1. The requirement of the last sentence (highlighted in yellow) is independent of the previous sentence (highlighted in green). i.e. Regardless if the hub is made of aluminum (non-ferrous) or steel (ferrous), the impeller, bearing and shaft are *still* required to be adequately attached and/or restrained to prevent a lateral or axial shift in these components.

2. Typical construction methods for “regular”/non-spark resistant industrial direct drive centrifugal fans have the impeller’s hub keyed to the standard shaft and secured with 3 setscrews.  This construction method is insufficient to meet the Type B Spark Resistant Construction requirement of the last sentence (highlighted in yellow). i.e. A more robust attachment method/restraint is required to adequately attach and/or restrain the impeller’s hub to the shaft (example: key, retaining washer/“hub cap”, and bolt).

**Question:** 1. Is this interpretation correct?

2. Is this interpretation correct?

**Answer:** 1. – Yes

 2. – No

**Comments:** It is not within the purview of AMCA or the committee to prescribe specific construction methods. It is the manufacturer’s responsibility to ensure the attachment method is appropriate. It is also noted that the specifier/customer must accept the design for their application.