### MINIMUM MELTING TIME-CURRENT CHARACTERISTIC CURVES

**SMU Fuse Units—S&C Very Slow Speed**

**Basis:** These fuse units are tested in accordance with the procedures described in ANSI Standard C37.41-1981, and they are rated to comply with ANSI Standard C37.46-1981. As required by these standards, the minimum melting current is not less than 200% of fuse-unit ampere rating, and the minimum melting curves are based on tests starting with the fuse unit at an ambient temperature of 20°C and no initial load.

**Construction:** Fusible elements are silver, helically coiled, and of solderless construction.

**Tolerances:** Curves are plotted to minimum test points. Maximum variations expressed in current values are plus 10%.

**Application—S&C Very Slow Speed fuse units are for application in circuits where additional time margin in the “protected” fuse is necessary for coordination, but where load conditions do not require fuse of a larger ampere rating.**

Like all high-voltage fuses, these fuse units are intended to accommodate overloads, not to interrupt them. Accordingly, they feature fusible elements which are designed with a minimum melting current of 200% of the fuse unit ampere rating (for fuse units rated 100 amperes or less) or 240% of the fuse unit ampere rating (for fuse units rated over 100 amperes). As a result, these fuse units have considerable peak-load capabilities; however, they should never be exposed to loading in excess of the peak-load capabilities listed in S&C Data Bulletin 240-196.

Since these fuse units have silver element construction which is subject to damage by aging or transient overcurrents, it is unnecessary to replace unfused fuse units in single-phase or three-phase installations when one or more fuse units have blown.

**Coordination**—Any preloading reduces melting time. While this phenomenon is especially pronounced in other makes of fuses having minimum melting currents appreciably less than 200% of rating, the effect of preloading must nonetheless be determined for the S&C fuse units represented by these curves (see S&C Data Bulletin 240-196) and adjustments to these curves must be made.

1. When close coordination is required.

2. When, regardless of the preciseness of coordination, the fuse unit is subjected to temporary overloads.

There are cases where the coordination requirements may be very exacting, for example, in coordinating a transformer primary fuse with a secondary breaker and a source-side breaker. The time interval between the operating characteristics of the two breakers may be very narrow. Under these circumstances there must be an extremely short time interval between the adjusted minimum melting curve and the total clearing curve greater than in the case of S&C speed options.

**FUSE UNITS AVAILABLE—**

- **Type:** SMD-20*
  - **Kv Num. Ratings:** 14.4 through 34.5
  - **Amperes Ratings:** 60 through 200

*These curves are also applicable to a previous design designated SMD-20.

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**Supersedes TCC No. 176-1 dated 1-25-88**