BASE—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 and total clearing curves presented on this bulletin are based on tests starting with the fuse unit at an ambient temperature of 25°C and no initial load.

CONSTRUCTION—Fuse links for fuse units rated 10E through 200E amperes are silver, and fuse links for fuse units rated 21E through 250E amperes are nickel-chrome, under controlled tension; fusible elements for SMU fuse units are silver, and fusible elements for fuse units rated 5E and 7E amperes are nickel-chrome, under controlled tension; fusible elements for fuse units rated 10E through 250E amperes are silver, and helically coiled. All are of solidless construction.

TOLERANCES—Curves are plotted to maximum test points. All variations are minus.

APPLICATION—Like all high-voltage fuses, these fuse units are intended to accommodate overloads, not to interrupt them. According to 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), and 240% of the fuse-unit ampere rating (for fuse units rated over 100 amperes). As a result, fuse links for fuse units rated 5E and 7E amperes should never be exposed to loading in excess of the peak-load current. Since fuse units exceeding 5E and 7E amperes are silver, commercially available silver, helically coiled fusible element construction can better resolve a coordination impasse than the use of another ampere rating in one of the fuse units. Such other fuses, including “time-lag” fuse links, “super-slow” fuse links, and “high surge” fuse links, require the use of “safety-zone” or setback allowances. In addition, they have larger construction tolerances (plus 20% in current; plus 40% in terms of time). The application of these two factors will give a time interval between the adjusted minimum melting curve and the total clearing curve greater than in the case of S&C speed options.

COORDINATION—These curves represent the following characteristics:

1. Minimum melting current is not less than 200% of fuse-unit ampere rating, and should be followed in coordination problems where fuses are applied as “protection” devices.

2. Preloading reduces melting time. With respect to the “protected” fuse, the effect of preloading must be determined and adjustments made to its minimum melting curve:

   1. When close coordination is required;

   2. When, regardless of the preciseness of coordination, the protected fuse 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 should never be exposed to loading in excess of the peak-load current. Since fuse units exceeding 5E and 7E amperes are silver, commercially available silver, helically coiled fusible element construction can better resolve a coordination impasse than the use of another ampere rating in one of the fuse units. Such other fuses, including “time-lag” fuse links, “super-slow” fuse links, and “high surge” fuse links, require the use of “safety-zone” or setback allowances. In addition, they have larger construction tolerances (plus 20% in current; plus 40% in terms of time). The application of these two factors will give a time interval between the adjusted minimum melting curve and the total clearing curve greater than in the case of S&C speed options.

**SMU Fuse Units—S&C Standard Speed**

**Curves are plotted to maximum test points. All variations are minus.**

**APPLICATION—**Like all high-voltage fuses, these fuse units are intended to accommodate overloads, not to interrupt them. According to 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), and 240% of the fuse-unit ampere rating (for fuse units rated over 100 amperes). As a result, fuse links for fuse units rated 5E and 7E amperes should never be exposed to loading in excess of the peak-load current. Since fuse units exceeding 5E and 7E amperes are silver, helically coiled fusible element construction can better resolve a coordination impasse than the use of another ampere rating in one of the fuse units. Such other fuses, including “time-lag” fuse links, “super-slow” fuse links, and “high surge” fuse links, require the use of “safety-zone” or setback allowances. In addition, they have larger construction tolerances (plus 20% in current; plus 40% in terms of time). The application of these two factors will give a time interval between the adjusted minimum melting curve and the total clearing curve greater than in the case of S&C speed options.