BASIS—These fuse units are tested in accordance with the procedures described in 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 are based on tests starting with the fuse unit at an ambient temperature of 25°C, and no initial load.

CONSTRUCTION—Fuse units are nickel-chrome, under controlled tension, fusible elements for fuse units rated 100E through 400E are silver, helically coiled. All are of solderless construction.

APPLICATION—Like all high-voltage fuses, these fuse units are designed with a minimum melting current of 200% of 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 stated in S&C Data Bulletin 240-100.

For fuse units having nickel-chrome or silver element construction, it is unnecessary to replace unfused fuse units of either of these constructions in single-phase or three-phase installations when one or more fuse units have blown.

COORDINATION—These curves represent the total time required for a fuse unit to melt and interrupt a fault current, and should be followed in coordination problems where fuses are applied as “protecting” devices.

Any predelay reduces melting time. With respect to the “protected fuse,” the effect of predelay 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 extremely short time interval between the minimum melting and the total clearing characteristics of the fuse. The fuse units represented by these curves possess this short time interval feature, since—having a nondamageable fusible element—there is no danger of preloading on top of minimum melting curve.

This narrow time band normally will provide the desired coordination. If the selected S&C Standard Speed fuse unit does not meet the coordination requirements, the selection of another ampere rating for either the protecting or protected fuse usually will satisfy.

Do not assume that other fuses that do not employ S&C’s silver, helically coiled fusible element construction can better resolve a coordination impasse than the use of another ampere rating in one of the S&C speed options. Such other fuses, including “time-lag” speeds, “super-time” speeds, and “high-surge” speeds, require the use of “safety zona” or setback allowances and, 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.