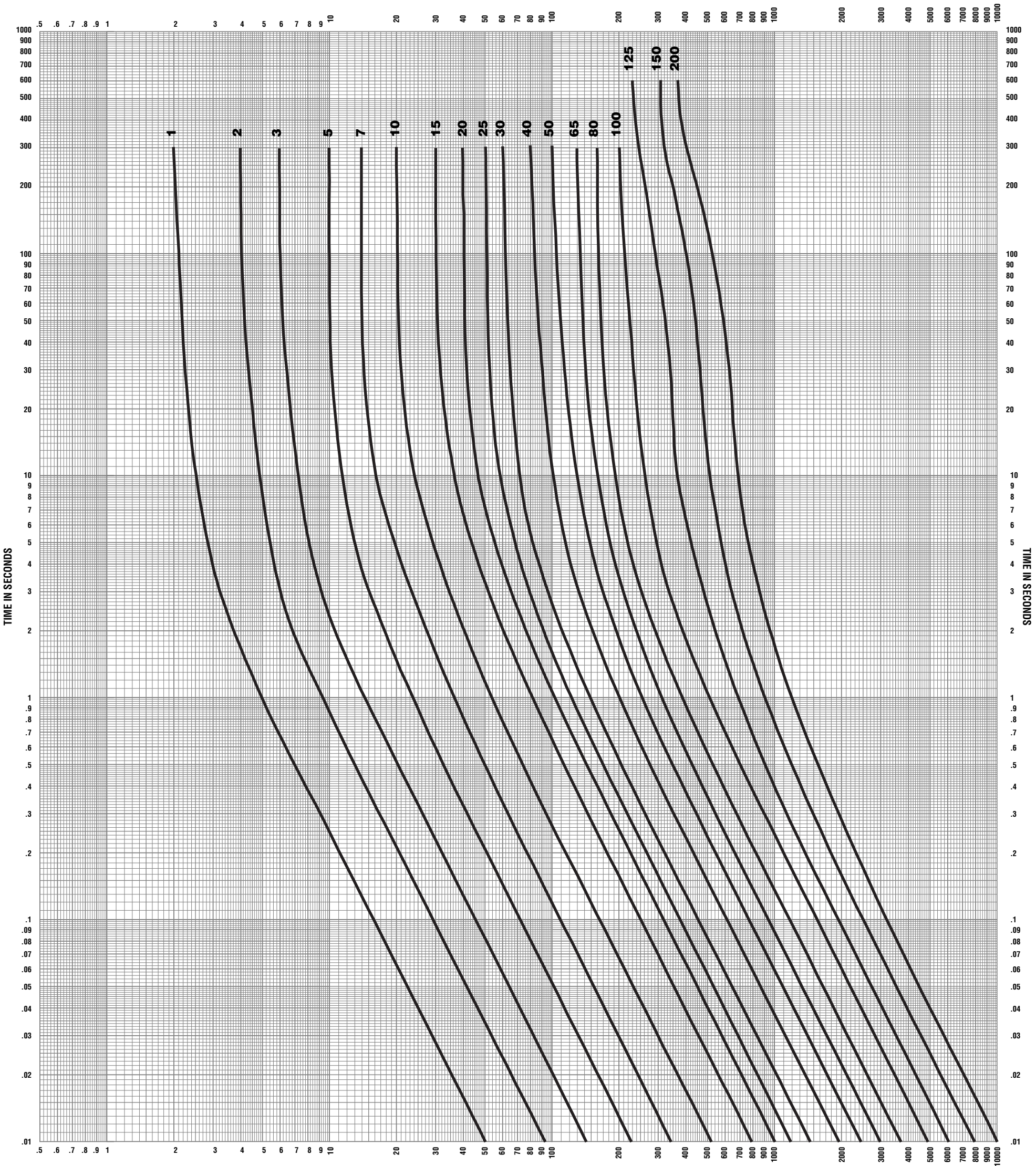

CURRENT IN AMPERES

MINIMUM MELTING TIME-CURRENT CHARACTERISTIC CURVES

POSITROL® FUSE LINKS —S&C STANDARD SPEED

BASIS—These fuse links are tested in accordance with the procedures described in ANSI Standard C37.41-1981, to comply with ANSI Standard C37.42-1981. As required by these standards, the minimum melting current is not less than 200% of fuse-link ampere rating, and the minimum melting curves are based on tests starting with the fuse link at an ambient temperature of 25°C and no initial load.

CONSTRUCTION—Fusible elements for fuse links rated 1 through 5 amperes are nickel-chrome; fusible elements for fuse links rated 7 through 100 amperes are silver, helically coiled; fusible elements for fuse links rated 125 through 200 amperes are silver-tin. All are of solderless construction.

TOLERANCES—Curves are plotted to minimum test points. Maximum variations within the coordinating range (melting times less than 10 seconds) expressed in current values are:

Plus 10% for fuse links rated 7 through 100 amperes;
Plus 20% for fuse links rated 125 through 200 amperes.

APPLICATION—Like all high-voltage fuses, these fuse links 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-link ampere rating (for fuse links rated 100 amperes or less) or 220% of the fuse-link ampere rating (for fuse links rated over 100 amperes). As a result, these fuse links 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 350-190.

Since fuse links having nickel-chrome or silver element construction are not subject to damage by aging or transient overcurrents, it is unnecessary to replace unblown fuse links of either of these constructions in single-phase or three-phase installations when one or more fuse links have blown. However, it is advisable to replace unblown silver-tin element fuse links under the same conditions, since—while not subject to aging—they may be damaged by transient overcurrents.

COORDINATION—Any preloading reduces melting time. While this phenomenon is especially pronounced in fuse links having minimum melting currents appreciably less than 200% of rating, the effect of preloading (as described in S&C Data Bulletin 350-195) must nonetheless be determined for the fuse links represented by these curves and adjustments to these curves must be made:

1. When close coordination is required;
2. When automatic circuit reclosers of three-shot cutouts are involved;
3. When, regardless of the preciseness of coordination, the fuse link is subjected to temporary overloads.

If close coordination is to be achieved, overloading must be avoided since it causes a significant shift in time-current characteristics.

Because of the damageability of silver-tin element fuse links (rated 125 through 200 amperes), setback allowances must be used in coordinating these fuse links as “protected” devices. These are applied by reducing the current value in the above curves by 10%. On the other hand, silver-element fuse links (rated 7 through 100 amperes) are nondamageable, and no such setback allowances are necessary.

The exclusive use of S&C Positrol Fuse Links—because of their inherently narrower tolerance band and because of their nondamageability—will expand the scope of coordination as follows:

1. Coordination of adjacent ratings, giving twice as many sectionalizing points. This is true for the sequence operation of fuse links alone, or for the sequence operation of fuse links coordinated with automatic circuit reclosers.
2. Coordination of a larger number of fuse-link ratings with a given automatic circuit recloser between the fast and retarded curves.
3. Coordination through a greater range, and to higher levels of fault current, with respect to automatic circuit reclosers.
4. Coordination to higher levels of fault current with respect to sequence operation of fuse links.

The breadth of coordination described above can be obtained only by the use of S&C Positrol Fuse Links. No fuse link of low-temperature element construction (tin, lap-joint) can provide similar performance.

NOTE—A coordination scheme designed to take full advantage of the nondamageability and the superior coordination capabilities of S&C Positrol Fuse Links may not function satisfactorily if fuse links of a similar speed but of other makes are substituted.

FUSE LINKS AVAILABLE—

Style	Ampere Ratings
Universal	1 through 200
Extra-Performance	1 through 100
Indicating	3 through 100
Open	1 through 25

Supersedes TCC No. 123-6 dated 12-17-84 ©1986

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