

(Effective 1981/01/01)

Use of “D” and “P” Type Fuses

Recently consumers have been urged to use only heat sensitive fuses marked “D” or “P” for electric furnaces, dryers, ranges, air conditioners, water and baseboard heaters and other loads of a cycling (automatic on-and-off) nature. Electrical inspection and fire authorities have been concerned over reports of fires which occurred in panelboard pull-out sections holding 20 to 60 ampere fuses. Overheating was probably caused by moisture, loose fuses, loose connections and/or overloaded circuits having improperly rated fuses. We have not received any reports of fires where heat sensitive fuses marked “D” or “P” was used.

The “D” and “P” fuses are heat sensitive and normally open at temperatures between 200 and 300 degrees Celsius, whereas the standard ACode® fuses usually melt only at temperatures in excess of 700 degrees Celsius. The Canadian Electrical Code, Part 1 requires that heat sensitive fuses be used in circuits of which more than 50 per cent of the load is of cycling nature.

“D” fuses, in both cartridge and plug shapes, have been available for many years, but fuses marked “P” are relatively new. Cartridge fuses shaped like a cylinder, marked “P”, are available now and screw-in plug type fuses marked “P” are expected on the market in 1981.

The “D” means time delay, and “P” stands for panelboard. Certain appliances such as air conditioners require the time delay feature because the initial starting current is very high and might cause a standard type fuse element to melt.

Here is where a very important difference between “D” fuses and “P” fuses must be noted. The “D” fuses will handle short-term high current in-rushes caused by motor operated appliances such as clothes dryers and certain window air conditioners which require considerable power when first turned on in order to cope with motor start-up.

The “P” fuse is not designed for high start-up currents but otherwise performs the same function as the “D” fuse to open the circuit before the temperature reaches a hazardous level.

SUMMARY OF FUSE CHARACTERISTICS

<u>Type</u>	<u>Time Delay</u>	<u>Low Melting Temperatures</u>
Standard “Code” Fuse	No	No
Type “D”	Yes	Yes
Type “P”	No	Yes

Please note that both “D” and “P” fuses will open circuits at much lower temperatures than standard “Code” fuses, and should be used to protect circuits supplying cycling loads such as electric furnaces, dryers, ranges, air conditioners, water and baseboard heaters. “D” fuses should be used where motors cause high start-up currents. Standard fuses may be used for non-cycling, low start-up loads such as lighting and many plug-in appliances.