



# FIELD GUIDE FOR FIRE INVESTIGATORS

COMPLIMENTS OF THE IOWA STATE FIRE MARSHAL DIVISION

COMMON MATERIALS	APPROXIMATE MELTING TEMP. (F°)
<b>METALS</b>	
ALUMINUM	1220°
ALUMINUM ALLOY	1050 - 1200°
BRASS (YELLOW)	1710°
BRASS (RED)	1825°
BRONZE	1800°
CAST IRON	2060 - 2200°
CHROMIUM	3350°
COPPER	1981°
FIRE BRICK (INSULATING)	2980 - 3000°
GLASS	1100 - 2600°
GOLD	1945°
IRON	2802°
LEAD	621°
MAGNESIUM	1160°
MAGNESIUM ALLOY	660 - 1200°
NICKEL	2651°
PARAFFIN	129°
PLATINUM	3224°
PORCELAIN	2820°
POT METAL	562 - 752°
SILVER	1760°
SOLDER (TIN)	275 - 350°
STAINLESS STEEL	2600°
STEEL	2760°
TIN	449°
TITANIUM	3035°
WAX (PARAFFIN)	120 - 167°
WROUGHT IRON	2700 - 2900°
ZINC	707°
<b>PLASTICS (THERMO)</b>	
ABS	190 - 257°
ACRYLIC	194 - 221°
NYLON	349 - 509°
POLYETHYLENE	251 - 275°
POLYSTYRENE	248 - 320°
POLYVINYLCHLORIDE	167 - 221°

FUEL	COLOR OF SMOKE	COLOR OF FLAME
WOOD	GRAY TO BROWN	YELLOW TO RED
PAPER	GRAY TO BROWN	YELLOW TO RED
CLOTH	GRAY TO BROWN	YELLOW TO RED
GASOLINE	BLACK	RED TO WHITE
NAPHTHA	BROWN TO BLACK	STRAW TO WHITE
BENZENE	WHITE TO GRAY	YELLOW TO WHITE
LUBE OIL	BLACK	YELLOW TO WHITE
LACQUER THINNER	BROWNISH BLACK	YELLOW TO WHITE
TUPENTINE	BLACK TO BROWN	YELLOW TO WHITE
COOKING OIL	BLACK	BLUE
ACETONE	BROWN	YELLOW
KEROSENE	BLACK	YELLOW
<b>AMPCACITY OF WIRING</b>		
<b>COPPER / ALUMINUM</b>	<b>AMPS</b>	<b>SCALE</b>
#14G / #12G	15	PENNY
#12G / #10 G	20 / 25	NICKEL
#10G / # 8 G	30	TWO DIMES
<b>SPONTANEOUS COMBUSTIBLES</b>		
<b>FORMS</b>	<b>MATERIALS</b>	
POWDER, SHAVINGS & FILINGS:	ALUMINUM, MAGNESIUM, STEEL,	BRONZE, AND ZINC
HIDES, SKIN, & MANURE	ANIMAL	MATTER
HAY & GRAIN	VEGETABLE	MATTER
ALL OILED CLOTH	VEGETABLE	OILS
SAWDUST, CHARCOAL & FLOUR	OTHER	MISC.

FLAME COLOR	TEMP. (F°)
FAINT RED	900°
RED	975°
BLOOD RED	1050°
DARK CHERRY RED	1175°
MEDIUM CHERRY RED	1250°
CHERRY RED	1365°
BRIGHT RED	1550°
SALMON RED	1650°
ORANGE	1725°
LEMON	1825°
LIGHT YELLOW	1975°
WHITE	2200°
BLUE WHITE	2550°

<b>FUSE CONDITIONS</b>	
TYPE	RESULT
SHORT CIRCUIT	BLACK FACE
OVERLOAD	LINK BROKEN

<b>POWER CONSUMED BY TYPICAL APPLIANCES</b>	
APPLIANCE	WATTS
ELECTRIC BLANKET	175
COFFEE MAKER	600
AIR CONDITIONER	800 - 1500
DISHWASHER	1800
CLOTHES DRYER	4500
PORTABLE HEATER	1200
HOUSEHOLD IRON	1000
ELECTRIC MOTOR (PER HP)	1000
BUILT-IN OVEN	4000
REFRIGERATOR	250
TELEVISION	250
80 GAL. ELECTRIC HOT WATER HTR	4500
ELECTRIC STOVE (ALL BURNERS & OVEN ON)	8000 - 16000

**ARSON HOTLINE: (800) 532-1459**