

transparency #5. "Stages of Nuclear Burning in Stars"
 from A.C. Phillips, The Physics of Stars
 26 Basic concepts in astrophysics Chap. 1

produced. These nuclei, isotopes of Cr, Mn, Fe, Co and Ni, form a nuclear ash which cannot be burnt.

The main stages of thermonuclear fusion in stars and the approximate temperature needed to ignite each stage are listed in Table 1.3.

TABLE 1.3 The main stages of nuclear burning in stars. The ashes of one stage of burning may become the fuel for the next stage provided the contracting star is massive enough to reach the approximate ignition temperature indicated.

Process	Fuel	Products	Approximate ignition temperature (K)
Hydrogen burning	Hydrogen	Helium	1×10^7
Helium burning	Helium	Carbon, oxygen	1×10^8
Carbon burning	Carbon	Oxygen, neon, sodium, magnesium	5×10^8
Neon burning	Neon	Oxygen, magnesium	1×10^9
Oxygen burning	Oxygen	Magnesium to sulphur	2×10^9
Silicon burning	Silicon	Iron and nearby elements	3×10^9

$M > 8 M_{\odot}$
 $M > 11 M_{\odot}$

includes argon, calcium, chromium, manganese, cobalt, nickel

includes aluminum, silicon, phosphorus
 Stellar mass and the extent of thermonuclear fusion