

Investment Casting

- Investment or lost wax casting produces parts with dimensional tolerances and surface finishes unmatched by other casting processes
- Initially a mould is used to prepare a wax pattern of the part to be made (step 1).
- The wax pattern is made using a process similar to that of gravity or die casting.
- Individual patterns are assembled, using wax, into a cluster of several patterns (step 3).
- The cluster is dipped or invested (step 4) in a refractory slurry (one definition of the word 'invest' is 'to cover')
- Then the refractory is strengthened by stuccoing (step 5).
- This yields a refractory mould containing the wax patterns (step 6), which are
- subsequently melted and the wax collected for reuse (step 7).
- The refractory mould is strengthened by firing at high temperature (step 8)
- Molten metal is poured into - the mould (step 9).
- Once the metal has solidified, the refractory mould is broken revealing the cluster of cast parts (step 10),
- Each part is then removed from the cluster (step 11).

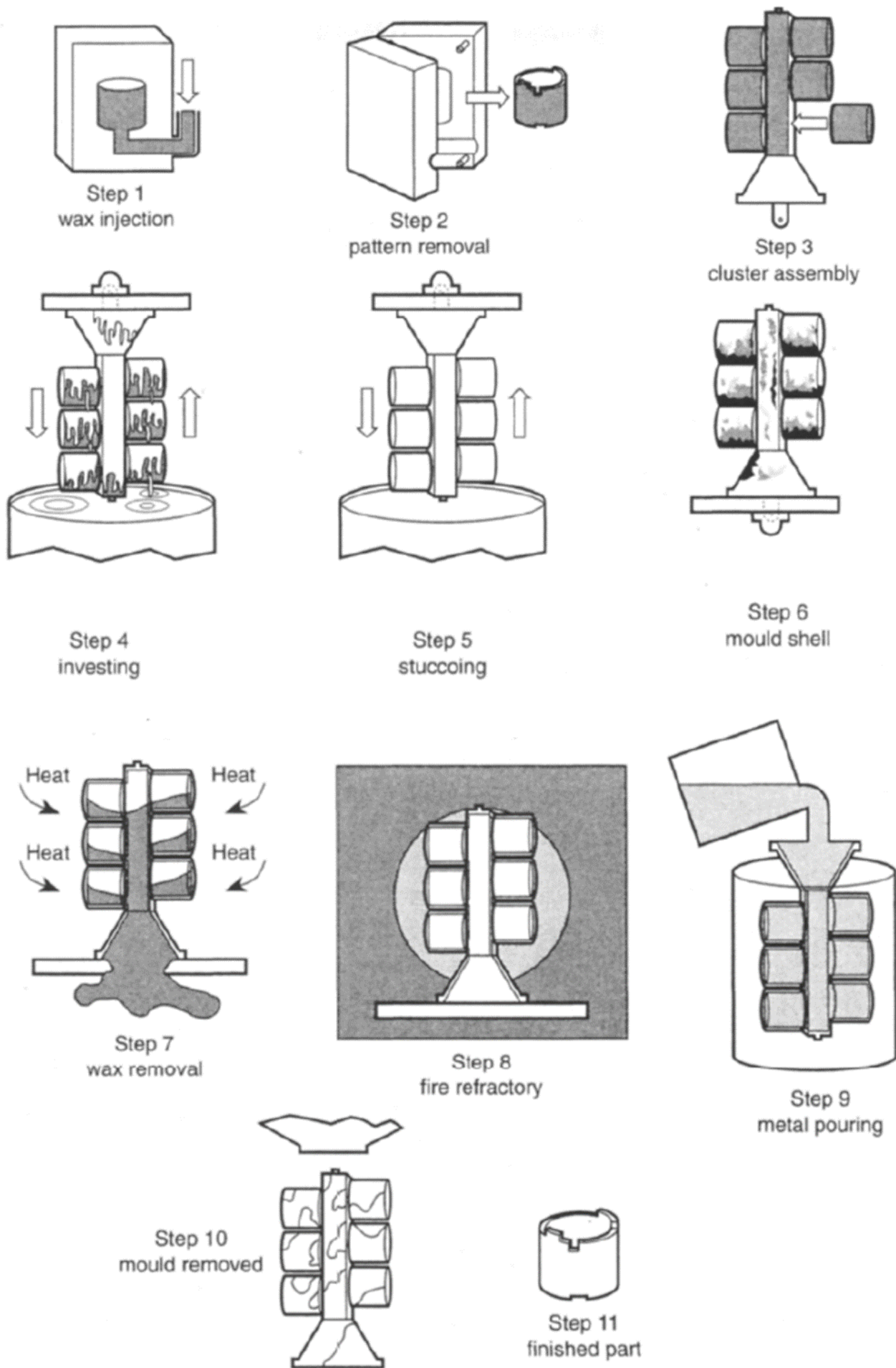


Fig. 2.10 The steps involved in investment casting. (Reproduced by permission of the Investment Casting Institute.)