

ABSTRACT

A near-infrared absorption spectrum of a hydrogenated compound (hydrogenated petroleum resin) in a form of a molten resin from which a hydrogenation solvent is separated in a hydrogenation solvent removing step is measured to calculate an aromatic content ratio and a softening point as physical property values of the hydrogenated compound based on analytical curve data. At least one of a temperature, pressure, reaction time and hydrogen content in a hydrogenating portion (3) is controlled such that a difference between the aromatic content ratio and the bromine number measured in the near-infrared spectrometry and an aromatic content ratio and bromine number of a target hydrogenated petroleum resin pellet becomes small. At least one of a temperature and pressure in a thin-film evaporator (42) is controlled such that a difference between a softening point measured in the near-infrared spectrometry and a softening point of the target hydrogenated petroleum resin pellet becomes small.