

ABSTRACT

Methods for producing a material containing modified sulfur and for preparing a binding material used for
5 production of the material with easy control of reaction
are disclosed. The material exhibits excellent
mechanical strength, water sealability, ignition
resistance, and resistance to sulfur-oxidizing bacteria,
even when wastes and industrial by-products are used as
10 aggregate, and fulfills properties required for materials
for civil engineering and construction. The method
includes the steps of (A) mixing in a molten state sulfur
and dicyclopentadiene at 135 to 155 °C to obtain a molten
material; (B) after a viscosity at 140 °C of the molten
15 material falls in a range of 0.05 to 1.2 Pa·s, cooling the
molten material down to a temperature not higher than 135
°C to obtain a binding material containing modified sulfur;
(C) mixing in a molten state the binding material with
aggregate at a specific ratio at 135 to 155 °C while a
20 viscosity of the binding material at 140 °C is maintained
in a range of 0.05 to 1.2 Pa·s to obtain a molten mixture;
and (D) cooling the molten mixture down to a temperature
not higher than 135 °C.