

NEAR-INFRARED SHIELDING COATING AGENT CURABLE AT ORDINARY
TEMPERATURES, NEAR-INFRARED SHIELDING FILM USING
SAME, AND MANUFACTURING METHOD THEREFOR

Abstract

Provided is a near-infrared shielding coating agent containing: (1) an inorganic near-infrared absorbing agent; (2) a tetrafunctional silicon compound represented by general formula $\text{Si}(\text{OR}1)_4$, a hydrolysate thereof, and/or a condensation polymerization product thereof; (3) a trifunctional silicon compound represented by general formula $\text{R}_2\text{Si}(\text{OR}3)_3$, a hydrolysate thereof, and/or a condensation polymerization product thereof; (4) a silane coupling agent represented by one of the general formulas $\text{Si}(\text{X})_3\text{-Y}$ or $\text{R}_4\text{Si}(\text{X})_2\text{-Y}$, a hydrolysate thereof, and/or a condensation polymerization product thereof; and (5) a solvent. This coating agent allows the formation, at an ordinary temperature between 5°C and 40°C, of a near-infrared shielding film that has a high film hardness and is not prone to cracks.

No Fig.