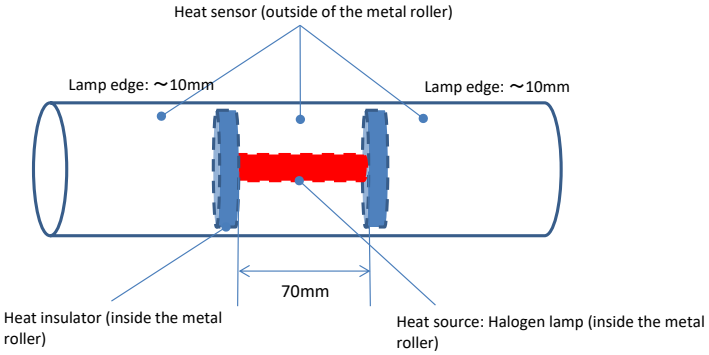
1. Measuring method



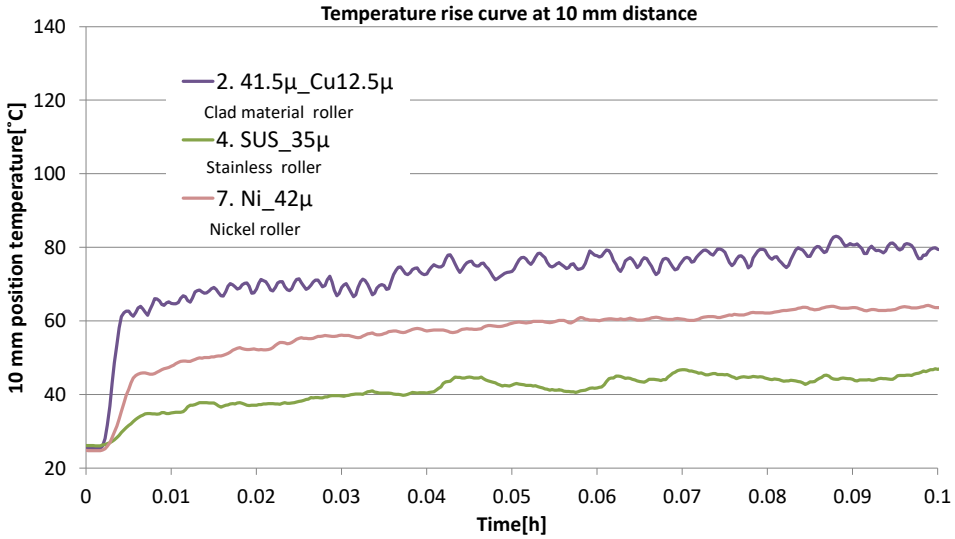
・Install heat source inside the metal roller (halogen lamp)
・Install heat sensor in the middle of the outside surface of the metal roller, and outside the insulators (10mm from the edge of the heat source)
・While maintaining the outside temperature of the roller at 180℃ with the temperature sensor located in the middle of the outside surface of the roller,
measure the outside temperature of the roller with the temperature sensor located on the outside of the insulators, to compare the rate of heat transfer in lengthwise direction.

2. Measurement results

Purpose: measuring the temperature change from a spot that is 10mm away from the heat source of the metal roller, and comparing with rollers made with different materials

Test samples: "Clad material roller", "Stainless roller", "Nickel roller"
All test samples are coated with fluororesin on the outside, and Okitsumo coating on the inside.

Clad material roller	: SUS+Cu+SUS,OD φ30,Total plate thickness 41.5μm,Cu Plate thickness 12.5μm
Stainless roller	: SUS304 single layer,OD φ30,Total plate thickness 35μm
Nickel roller	: Nickel Electroforminng single layer,OD φ30,Total plate thickness 42μm



Since the clad material metal roller has a copper layer having high thermal conductivity in the center of the base material, it is excellent in heat transfer in the lengthwise direction (axial direction), and as compared with other materials (nickel, stainless), the center you can see that the heat gained in the part is efficiently transmitted to the outside