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# RIAG Seal 971

## Black topcoat

RIAG Seal 971 is a thin, water-based black topcoat.

### Properties

- Thin layers
- Applicable in barrel or rack

### Make up

	Barrel	Rack
RIAG Seal 971 Additive (density = 1.0 g/mL)	150 – 500 mL/L	50 – 200 mL/L
DI water	500 – 850 mL/L	800 – 950 mL/L
Dipping time	10 – 20 sec	10 – 20 sec

The rack application is used with a drip time of 20 – 30 seconds or by blowing off procedure before drying. At the barrel application a spin-dry process is used before hardening the layer.

### Procedure for a make up

If necessary, put water in the process tank, add **RIAG Seal 971 Additive** and mix well. Now the bath is ready for operation.

### Effluent control and safety considerations

Protective gear such as face shields and gloves should be worn during bath make up and operation. Chemicals shall not be stored below 10 °C. Spent solution has to be treated and discharged according to local wastewater laws.

## Operating conditions

Temperature:	18 – 30 °C (room temperature)
Time:	10 – 20 sec.
pH-Value:	≥ 8 – ≤10 , Frequent control is usually not necessary, if no acidic solutions are dragged in. For adjustment use only ammonia.
Drying:	40 – 100 °C

## Process sequence

1. Zinc or zinc-nickel plating
2. Water rinse (double)
3. Activation for zinc only in nitric acid (0.3 – 1.0 %)
4. Water rinse
5. **RIAG Pass**
6. DI water rinse (double)
7. Dry or blow liquid off
8. **RIAG Seal 971**
9. Drying at 40 – 100 °C

## Analysis

**RIAG Seal 971** can be analyzed easily gravimetrically. A scaled sample is dried at 105 °C to a constant weight (approximately 30 minutes) and scaled again. The result should be the same as after a new make up.

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