

# SOLIBLACK

Low Reflection & High Optical Absorption

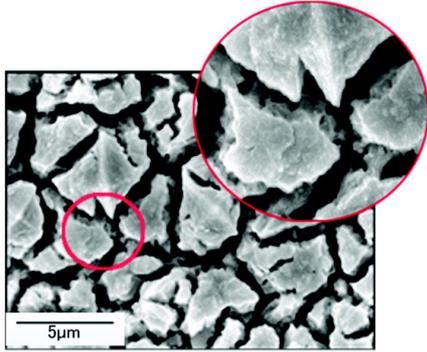
Blackening electroless plating

## ➤ Characteristics

- Optical absorption : 98% (at visible area)
- Corrosion resistance :  
Over electroless Ni-P film (v.s. acid rain)
- Low reflection : *- black -*  
0.2% by incidence angle 12° (at visible area)
- Heat resistance :  
No effect (by 473K at 2 hours)
- Accuracy :  
Possible to uniformly treat at various shapes  
(specify film thickness  $\pm 10\%$ )
- Affinity for materials :  
Iron, aluminum, copper, stainless and more  
Please contact for more information

## Surface observation

SEM image of 'SOLBLACK'



High optical confinement effect was induced to creekside nanostructures.

## Color component

Color component was measured by spectrophotometer. (SE2000)

	L*	a*	b*
PHOSBLACKIII	89.9	-5.4	31.3
SOLBLACK	62.2	-4.8	22.8

Blackness : SOLBLACK > PHOSBLACKIII

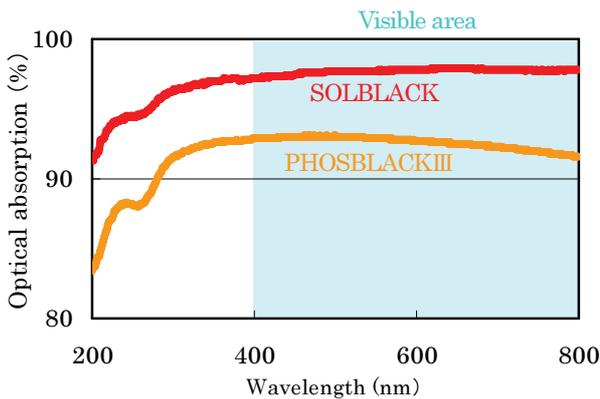
L\* : Blightness (Black 0 ~ 100 white)

a\* : Color (Green — ↔ + Red)

b\* : Color (Blue — ↔ + Yellow)

## Optical absorption

Optical absorption was calculated from total reflection measuring result.



SOLBLACK absorb 98% of visible light

## Heat collecting test

Heat collecting was observed by water temperature changes in the pipe.

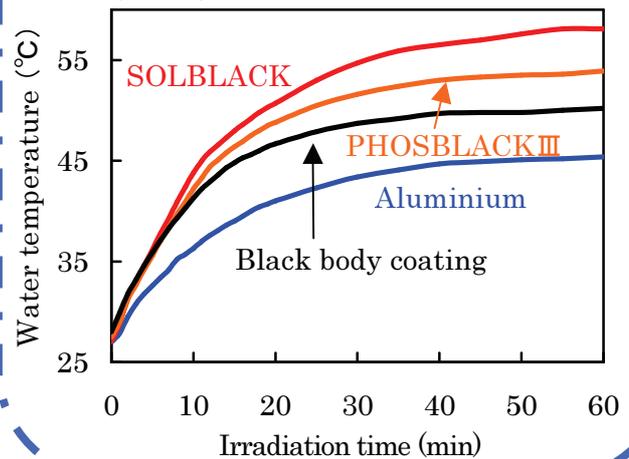
Measurement condition

Light source : 50W Light distance : 10cm

Material of pipe : Aluminium

( $\phi$  15mm \* L100mm)

Quantity of water : 8mL

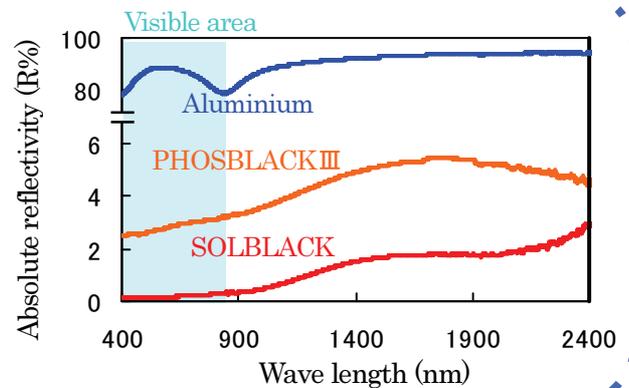


## Absolute reflectivity ※

Absolute reflectivity was measured by spectrophotometer at 12°.

SOLBLACK showed high absorption from visible area to infrared area.

※Grateful to Mr. AKITAYA of Hiroshima univ for providing data.



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