Preventing damage (to floating foils) caused by Rayleigh-Taylor instabilities

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ACF-Metals (The Arizona Carbon Foil Co., Inc.)
2239 E. Kleindale Road
Tucson AZ 85719-2440
Aluminum foil production:

37 mm
EVAPORATED ALUMINUM ON 300 mm
SODIUM CHLORIDE ON LEXAN SUBSTRATE

THERMAL EVAPORATION FROM ARRAY OF BASKETS

INTDS-2018
Oct. 8-12, 2018
FLOATOFF PROCESS

FLOATING FOIL

WATER SURFACE (RISING)

1.2 m

MESH ON RING UNDER WATER

INTDS-2018
Oct. 8-12, 2018
Rayleigh-Taylor instabilities
CONVECTION PRODUCTION

Al FOIL FLOATING ON WATER

NaCl SOLUTION
WATER
WATER FLOW
CONVECTION CELL

LEXAN SUBSTRATE
Convection can destroy a foil!
Crumpled and torn due to convection:

92 cm
Dissolved N\oe

Al Foil

Rising Water Level

Lexan Substrate

Convection - Blocking
No convection: Successful foil.

92 cm