

IRT HEDSON INDUSTRIAL SOLUTIONS

We develop, manufacture and supply custombuilt IRT drying and curing solutions to all industrial sectors. IRT is a trademark belonging to Hedson Technologies, an environmental engineering corporation and world leading supplier of cleaning, curing and lifting equipment.



IR/UV CURING, SURFACE COATING INDUSTRY



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Sweden
Phone + 46 521 28 12 30

Germany
Phone +49 561-589070

North America
Phone +1 905-339 28 00

France
Phone +33 3-86 28 16 44

industrialcuring@hedson.com
www.hedson.com

PROJECT DESCRIPTION

- **Type of industry:**
Surface coating
- **Place:**
Sweden
- **Project number:**
302080

OBJECTIVE

To supply the most suitable curing solution for organic chromate conversion surface treatment on kitchen cabinet doors.

PROCESS

- **Parts, material and dimensions:**
Plastic parts surface coating
- **Type of transport, static/dynamic, speed etc:**
Standard type flat bed conveyor.
Total orbit 225 meters/3 hours.
- **Material (wet-dry paint/other), max temp allowed etc:**
Organic chromate conversion

IRT HEDSON SOLUTION

- **Chosen heating method, cassette dimensions, time, temperature increase/min, effect etc:**
IR-heating to 45-50 °C (appr 1 minute) to smooth out surface in preparation of organic chromate conversion. The 3 IR-zones can also be used to pre-heat/boost the temperature before entering convection oven.
UV-curing for appr 2 minutes at a speed of 1,5 m/min.
Effect UV: 40 x 2 kW = total 80 kW
Effect IR: 21 x 4 kW = total 84 kW



CASE: YTAB INVESTS IN IR/UV CURING NEW CHROMATE CONVERSION PLANT WITH IR/UV CURING

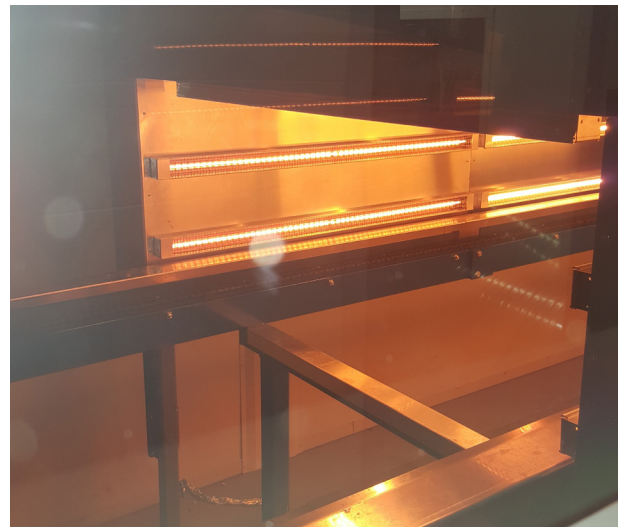
YTAB is a Swedish company situated in Näsrum, specializing in the coating of plastic products. In 2000 the company built a fully automated painting facility which over time developed and was expanded. In 2016 a unique organic chromate conversion plant (Echochrome) and a new flatbed line was completed, with IR and UV curing technique from IRT. Since the use of hexavalent chromium will be banned within the EC in 2017, YTAB chose to invest in the Echochrome facility with extended flexibilities such as infrared and ultraviolet curing, as well as traditional hot air drying.

PERFECT SURFACE

One project for YTAB:s new Echochrome line is the surface coating of shutters and doors for a kitchen cabinet manufacturer in a special process to reach extremely high gloss demands in which the IR-boosting technique is used. Other projects with plastic parts use the combined method of IR and UV curing. IR-heating is used to create a perfect surface for the chromate conversion top coat, which is cured with UV-radiation. Although the organic chromate conversion plant is unique with just a few available in all of Europe, the technique is already well-known on exterior and interior automotive industry plastic parts. Surface finish is an important sales argument and the Echochrome plant has created a great deal of interest with parts being received for testing from a wide range of industries.



- YTAB has 3 lines, the largest 225 m long with an orbit time of approximately 3 hours. Fixtures of plastic parts are installed in a conveyor with 3 basic steps; pre-treatment (static electricity is removed), primer and base coat is applied, clearcoat is applied.



- IR-heating is used to create a perfect surface for the chromate conversion top coat, which is cured with UV-radiation.



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