



● INJECTION MOULDING

Plastic Factory Cooling System Case Study Thailand

HydroFLOW® improved cooling performance by releasing existing scale and eliminating water softener chemicals, reducing cleaning time and preventing overheating in injection moulding machines.

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Water softener chemicals used

10 min

Monthly Cleaning Time

0

Overheating Incidents



Scale released into system

⇒ BEFORE & AFTER

● BEFORE

- ✗ Heavy scale in cooling tower and heat exchanger
- ✗ Bi-weekly cleaning required
- ✗ Frequent overheating of injection machines

● AFTER

- ✓ Existing scale released as sediment in system
- ✓ Monthly cleaning reduced to around 10 minutes
- ✓ No overheating observed in machines

OVERVIEW

Salaya Plastic Factory in Thailand operates ten injection moulding machines supported by a cooling tower and heat exchanger system. With water hardness at 380 ppm, chemical treatment was used to manage scaling, and frequent maintenance was required. A *HydroFLOW*® C60 unit was installed in June 2002 to treat the cooling system and improve operational performance.

CHALLENGE

Severe scaling and high maintenance reduced cooling efficiency and machine reliability.

- High water hardness at 380 ppm leading to scale formation
- Cooling tower required cleaning every two weeks
- Heat exchanger scaling reduced heat transfer efficiency
- Injection machines experienced frequent overheating



SOLUTION

A *HydroFLOW*® C60 unit was installed on the cooling system to treat the water, releasing existing scale and reducing reliance on chemical treatment.

UNIT INSTALLED

1x *HydroFLOW*® C60

INSTALLATION POINT

Cooling system pipework

INSTALL DATE

June 2002

WATER HARDNESS

380 ppm



RESULTS



Chemical Use Eliminated

Water softener chemicals no longer required after installation



Reduced Cleaning Frequency

Cleaning reduced from bi-weekly to once per month



Faster Maintenance

Cooling tower cleaned in around 10 minutes per month



No Overheating Issues

Injection machines no longer experienced overheating



Scale Released

Existing scale observed as sediment in cooling tower



Improved Heat Transfer

Heat exchanger remained free of hard scale deposits

KEY TAKEAWAY

Summary

At Salaya Plastic Factory, high water hardness led to severe scaling and frequent maintenance in the cooling system. Following installation of a *HydroFLOW*® C60 unit, water softener chemicals were no longer required and existing scale was released as sediment. Cleaning frequency reduced to monthly, with maintenance taking around 10 minutes. Heat exchangers remained free of hard scale, and injection machines no longer experienced overheating.

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WATER SOFTENER CHEMICALS
USED

10 min

MONTHLY CLEANING TIME

0

OVERHEATING INCIDENTS

HYDROPATH

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