



● INJECTION MOULDING

Injection Mould Cooling System Case Study Wadowice, Poland

HydroFLOW® units treated scale and biofilm in an injection mould cooling system, improving heat transfer, stabilising cycle time, and reducing maintenance.



Scale & biofilm reduced



Softener Use



Cycle time improved

1mo

Cleaning Interval



BEFORE & AFTER

● BEFORE

- ✗ Scale and biofilm in cooling channels
- ✗ Rotometers required monthly cleaning
- ✗ Reduced heat transfer affecting cycle time

● AFTER

- ✓ Scale and biofilm no longer affecting system
- ✓ Softeners disconnected after installation
- ✓ Improved cooling performance and cycle time



OVERVIEW

METCHEM in Poland operates injection moulding systems using cooling water to control process temperatures. Mineral deposits and biofilm reduced heat transfer, increasing cycle time and affecting production efficiency. *HydroFLOW*® units were installed to treat the system and improve performance.



CHALLENGE

Deposits reduced cooling efficiency and increased maintenance demands.

- Scale and biofilm in mould cooling channels
- Monthly cleaning required for rotometers
- Reduced heat transfer capacity
- Increased cycle time and operating costs

SOLUTION

HydroFLOW® P120 and S38 units were installed on cooling circuits and the heat exchanger to treat the system and reduce mineral and biofilm deposits.

UNITS INSTALLED

2x HydroFLOW® P120, 1x HydroFLOW® S38

INSTALLATION POINT

Cooling circuits and heat exchanger

INSTALL DATE

July 2017

PIPE SIZES

114 mm and 30 mm



SITE

Injection moulding production floor



INSTALLATION

HydroFLOW® unit installed on cooling line



SITE

Rotometers fouled with deposits before treatment

RESULTS

Deposits Reduced

Mineral and biofilm deposits reduced across cooling system

Softeners Removed

Ion exchange softeners disconnected after installation

Improved Heat Transfer

Improved heat transfer increased cooling efficiency

Reduced Maintenance

Less frequent cleaning of rotometers and system components

Lower Operating Costs

Reduced water use and regeneration costs from softeners

Reduced Cycle Time

Improved cooling reduced injection moulding cycle time

KEY TAKEAWAY

Summary

At METCHEM in Poland, mineral and biofilm deposits reduced cooling efficiency and increased cycle time. Following installation of HydroFLOW® units, deposits were reduced and ion exchange softeners were removed. Cooling performance improved, leading to reduced maintenance and lower operating costs.



DEPOSITS REDUCED

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SOFTENER USE



CYCLE TIME REDUCED

HYDROPATH

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HydroPath Technology is a world leader in sustainable water treatment solutions, providing chemical-free alternatives for industrial and commercial applications across more than 50 countries.

50+

COUNTRIES

30+

YEARS EXPERIENCE

1M+

UNITS INSTALLED

RELATED CASE STUDY

Injection Moulding Cooling System Case Study

Philippines

HydroFLOW® units were installed at Plastmann Corporation to treat scale in a cooling system supplying 40 injection moulding machines. Scaling caused overheating and downtime. After installation, chemical use reduced, maintenance extended to yearly intervals and machines ran reliably without overheat

1 Year Maintenance Interval

Cleaning extended from every 3–6 months to once per year, reducing maintenance frequency

No Overheating Stoppages

Machines operated without overheating-related downtime after installation across the system

Reduced Chemical Use

Chemical dosing lowered significantly, with only minimal chlorine needed for algae control

HYDROPATH 

Ready to reduce deposits and improve cooling efficiency?

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