RFM AutoPour Ladle With ZYP Boron Nitride Lubricoat-Blue Coating

FOUNDRY PROCESS
High-pressure Die Casting

ALLOY
Aluminium Die Casting Alloy ADC10 (A380)

POURING TEMPERATURE
680°C ± 3°C (1256°F ± 6°F)

PREVIOUS SITUATION
The following issues were experienced with a steel ladle:

- Short ladle life (15–20 days)
- Heavy ladle weight
- Frequent coating application
- Flame generation due to oil-based coating
- Substantial downtime
- Iron contamination
- Long preheating time (15–20 minutes)
- Scrapped parts
- Dross build-up

PYROTEK SOLUTION
All steel ladles were replaced with ladles made from Pyrotek's reinforced fibreglass material (RFM®). Ladle sizes included 24 kilogram (53 pound) and 30 kilogram (66 pound) capacities.

Ladle capacities and weights are listed in the table below for comparison:

Ladle Capacity	STEEL LADLE	RFM LADLE
24 kg	21 kg	16 kg
30 kg	26 kg	20 kg

Before (steel)

After (RFM)

PROCESS IMPROVEMENTS
- Increased ladle life (3–4 months)
- Decreased coating frequency (once a week)
- Eliminated iron contamination and flame
- Decreased preheating to less than 5 minutes
- Decreased scrapped castings
- Reduction of skull and dross on the casting floor
- Easier maintenance due to lighter weight ladle

ESTIMATED SAVINGS

Annual Consumable Cost (USD)			
	Cost Per Ladle	Number of Ladles Used Annually	Total Cost
Steel Ladle	$337	372	$125,364
RFM Ladle	$1090	62	$67,580
Total Savings	**$57,784**		

Annual Labour Cost (USD)*	
Steel Ladle	$145,365
RFM Ladle	$13,841
Total Savings	**$131,524**

*Calculated based on average cost of labour per hour and downtime hours for maintenance.

The RFM ladle yielded about USD$189,300 in annual savings.

JUN-16-ENG-1570