



**CASE STUDIES OF PIHBOND INDUCTION IN
KOYO HP LINE PRODUCING SANITARY AND
AUTOMOBILE CASTING**

By Goyal Technical Team

AGENDA

- The Goyal Group, trying to ensure better castings for the foundries, have now after considerable R&D effort, developed Single Additive product – ***PihBond series*** for foundry's green sand system and now associated with a Foundries with KOYO HP line producing Automobile and Sanitary castings.
- Goyal Group introduced Single Additive– ***PIHBOND series*** in the sand system with the following objectives:
 - ✓ *Improve the peel off and finish of castings.*
 - ✓ *Optimizing Shot blasting time .*
 - ✓ *Optimize the addition of various consumables.*
 - ✓ *Control Weight of Castings.*
 - ✓ *Reduction in Sand related Rejections.*

SAND STICKING



PRE - TRIAL



POST - TRIAL

SHOT BLASTING



PRE - TRIAL



POST - TRIAL

SHOT BLASTING



PRE - TRIAL



POST - TRIAL

TECHNICAL IMPROVEMENT - FOR 400MT PRODUCTION FOUNDRY

- | | |
|---------------------------------------|-------|
| • Reduction in Addition of Additives | 65% |
| • Increase in GCS | 18% |
| • Reduction in Sand Sticking | 42% |
| • Reduction in Shot Blasting Time | 38% |
| • Avg. Reduction in Casting Weight | 4.72% |
| • Reduction in Sand Related Rejection | 28% |

CONCLUSION

- The Foundry accrued Technical Advantages as stated in our proposal.
- WIP in the fettling was reduced considerably
- This enabled faster dispatch of castings
- Mould breakage reduction, enabled better production
- Shop floor pollution reduced considerably enabling better working conditions in the Foundry
- ***While the cost of PihBond enriched sand works out higher than Bentonite + LCA enriched sand, when considering the overall costing (cost advantage accrued by the tangible Technical Advantages) the Foundry was advantaged commercially in comparison to the Bentonite + LCA System.***