



MOULD & CORE CASE STUDY IRON

Casting: Grey Iron 4-Cylinder Engine Block

RHEOTEC

XL coating

Foundry:

Brazilian high production cylinder block and head foundry. Customers include Cummins, GM, Peugeot, Daimler Chrysler and Mack Truck. Production of 300,000 tonnes per year finished castings.

Customer Objectives:

- Low cost engine block production
- Achieve superior as-cast quality of internal channels – minimize fettling and finishing

Casting weight:

49.3 kg - 2 cast per mould

Castings per year:

420,000

Core Package:

Phenolic-Urethane Cold Box water-jacket and crank cores



No veining in the water-jacket area.

Coating Application

| | Coating Parameters |
|-------------------|---|
| Coating | RHEOTEC XL |
| Core Sand | Silica 55 AFS |
| Coating Method | Automatic dipping of water-jacket and crankcase cores |
| Baumé | Water-Jacket = 38 Crankcase = 34 |
| Drying Conditions | Gas Convection 180°C for 40 minute |

Key Benefits

- Minimal retained particulate levels & zero veining in water channels
- Low overall production cost
- Casting quality persuaded customer to appoint foundry as the preferred engine block supplier
- Enhanced reputation for quality in the European market brought additional business from automakers
- “Right First Time” quality



FOSECO products used:

RHEOTEC* XL Coating
SEDEX* Filters

RHEOTEC XL Performance:

Single coat application of RHEOTEC XL prevented veining in internal channels.

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