

# SINTERLINE™

Beyond the limits of rapid manufacturing

Polyamide 6 powder for Selective Laser Sintering - CASE STUDIES



**SOLVAY**  
asking more from chemistry®

## Yamaha FZ8 n°113 by Solution F

24H du Mans Moto – Endurance World Championship – Sept 8-9, 2012  
Modified with an engine of more than 200 cv (vs. 100 cv), the **Yamaha FZ8 n°113** won brilliantly within the prototype category the three-hour endurance Bol d'Argent at Magny Cours (France).

**Material: Sinterline™ Polyamide 6 powders of Solvay Engineering Plastics**



Courtesy of Team Motors Events



Admission pipe made by e2r (Solution F)

### Objective

- Create the best design of the motorbike air system to be the most efficient (As there is no universal adaptable admission pipe solutions for motorbike engines)

### Major needs for Moto part Producer

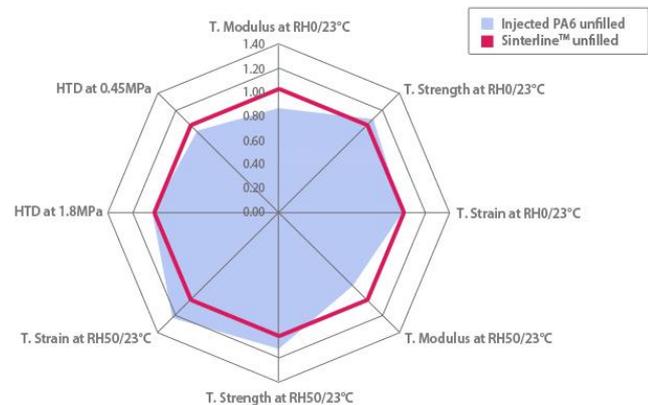
- Accuracy
- Durability
- No design limits
- On demand

“With the Sinterline's™, properties of we could make the intake manifold flange which would allow to incorporate tailored butterflies for the optimization of the engine performance”  
Gaël Volpi - Technical Manager - e2r

### Benefits

- **Engine Performance and acceleration**  
With **Sinterline™** the engine has gain **1kg of torque** and a **torque curve profile without hole**, which leads to a more "full" motor behavior.
- **Design freedom:** The performance was achieved thanks to **the production of three different models**; the most optimum was used for racing.
- **Sinterline™** is the best solution due to **temperature levels (30-50 °C)** and **air nature (saturated in fuel and oil)**.
- Excellent balance of **mechanical and thermal properties** for the **production of functional prototypes and small series components**.
- Tensile Modulus of **3360 MPa** at 23°C/0% HR **Sinterline™** unfilled and of **6010 MPa** at 23°C/0% for **Sinterline™** filled with glass fibre.
- **High level thermal performance** compared to PA12 benchmark.

### Mimic to injected PA6



### To know more:

- [Sinterline™ website](#)
- [Solution F / e2r website](#)
- [Tem Motors Events website](#)

### Contact

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