

# Oxy-Boosting

## Our commitments:

- Increase your productivity
- Increase alternative fuels utilization
- Improve stability of your process
- Decrease CO<sub>2</sub> emissions
- Secure the quality level of your product



## The Industry Challenge

Today, the cement industry is facing the dual challenges of making furnaces more energy and cost efficient while reducing polluting emissions.

Air Liquide supports this industry with proven and patented technologies based on enriching the air injected with oxygen or injecting it directly in the rotary kiln, to boost the process.

## Oxy-Boosting at a Glance

Air is commonly used to provide the oxygen for the combustion process to heat industrial furnaces. Oxy-boosting is based on implementing an oxygen source to improve the process raising flame temperatures and decreasing fumes volume. Oxy-boosting also reduces carbon dioxide emissions, which are harmful to both humans and the environment.

## Your Needs

- Increase your productivity with or without using alternative fuels
- Increase the usage of alternative fuels
- Secure the quality level of your product
- Decrease CO<sub>2</sub> emissions

## Our All-in-One Solution

Air Liquide offers **customized solutions** based on a strong experience in this industry over the years.

Our teams help our customers to:

- Optimize their processes
- Enhance their productivity and their product quality
- Achieve more efficient use of resources

Air Liquide provides the **best solutions** that fit your needs:

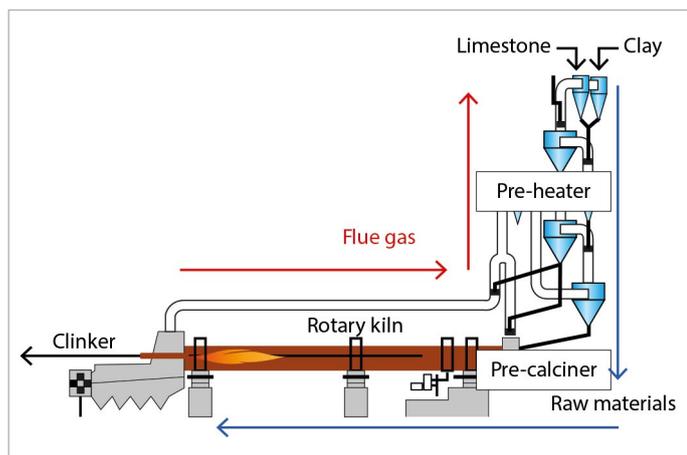
- Simply delivering gas to their point of use
- Building solutions together to improve their process and solve issues

Air Liquide offer gas solutions **for each step of the process:** production, R&D, quality control and maintenance.

# Oxygen Benefits

- Contribute to your industrial **performance**
- Increase the **use of alternative fuels**
- Guarantee the **quality** of your clinker
- Improve the **efficiency** of the combustion process
- **Avoid ring formation** in the rotary kiln
- **Decrease CO<sub>2</sub> emissions** (1 ton cement = 0.8 ton CO<sub>2</sub>) and sulphur blocks formation
- Decrease of fossil fuel consumption

# Oxygen Injection Principle



# Results

- Increase of the flame temperature in the combustion chamber
- Increase of the kinetic combustion
- Flame stabilization
- Fumes reduction for the same power

# Proven Innovative Technology

- Tailored made technology according specific objectives
- Combustion installation on-site
- Industrial validation period
- Interactive management with process control



# Expertise & Safety

- Safety installations and operations
- Air Liquide experts support from trials phase to final installation and operation
- Performance commitment over the long term



# Gas Supply

From basic needs to full process support, Air Liquide knows that reliable gas supply is crucial to your operations. Our teams work with you to determine the most appropriate and cost-effective supply mode based on their purity, flow and safety requirements as well as the volume of gases needed for your manufacturing processes.

# References

- Worldwide customer references
- Increase of the productivity of the rotary kiln between 5 to 30%
- Increase of alternative fuels use to local regulation level

## Contact Us

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