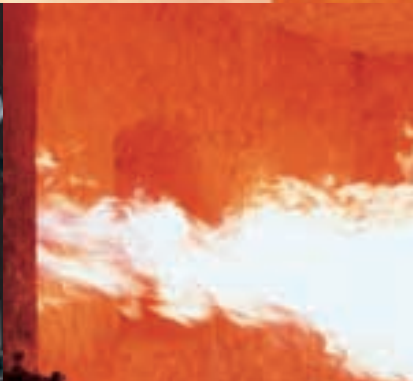


APMelt™
Technology for the
Non-Ferrous Industry

Maximising efficiency...



...reducing costs

Air Products and the Non-Ferrous Industry

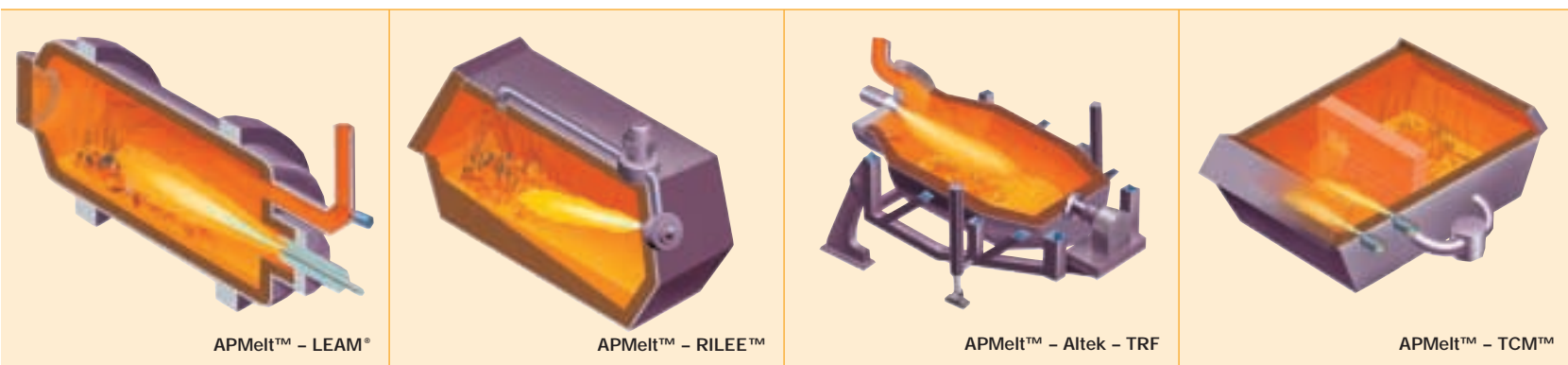
Air Products has a long history of supplying technology, services and industrial gases to the non-ferrous industries. We supply over 500 customers worldwide who are involved in the production of aluminium, copper, zinc, lead and precious metals. One of our major areas of interest has been in the use of oxygen to enhance combustion processes. This has culminated in the development of the APMelt™ range of technologies.

APMelt™

Some time ago Air Products recognised that in order to get the most out of a furnace the burner system needs to be an integral part of the whole melting operation – not just a means of generating heat. With this in mind we developed a range of technologies which have been proven to reduce overall costs and increase efficiency. Sophisticated control systems combined with unique approaches to furnace design have given the user the following benefits:

- Ability to melt a wider range of lower cost materials
- Reduced or eliminated need for after burners
- Reduced emissions
- Reduced fuel consumption
- Increased yields
- Increased production
- Reduced use of fluxes
- No degradation of performance with time
- No increase in specific refractory consumption

All technologies can be applied to new installations and many can be retrofitted to existing furnaces.



APMelt™ – LEAM

The LEAM process (Low Emission Aluminium Melting) enables non-ferrous materials with high hydrocarbon levels to be melted in a rotary furnace without the need to slow the process down or carry out post combustion in after burner chambers. The benefits of high productivity, high yield and low fuel consumption normally associated with oxy/fuel are also achieved.

APMelt™ – RILEE

Using the RILEE (Recycle Incineration Low Exhaust Emission) to melt contaminated material is a proven economic way of improving flexibility and maximising yields. The technology can be applied to reverberatory and dry hearth furnaces where it is essential to control flame temperatures (and so avoid oxidation) whilst ensuring that the hydrocarbons are combusted within the furnace.

APMelt™ – Altek – TRF

Based upon the dry salt method of melting aluminium, the TRF (Tilting Rotary Furnace) offers significant benefits over fixed axle rotaries. The ability of the furnace to tilt also minimises the amount of time spent on non-productive operations such as charging, tapping and cleaning. The resulting high productivity is also combined with high efficiency. This technology is now being used in other non-ferrous industries.

APMelt™ – TCM

The use of indirect melting has many advantages in terms of efficiency and yield. The TCM (Twin Chamber Melter) system takes this approach a step further and allows production rates to be increased whilst dramatically reducing environmental emissions. Contaminated materials are fed into the charge side of the furnace. All fume which is generated passes through into the clean chamber and is combusted before leaving through the flue.



Air Products Services

Even the best technology can fail if it is incorrectly applied or operated. Air Products has a dedicated team of people who have developed their knowledge through working closely with the non-ferrous industry. This team will work with you to determine the solution which fits your needs and will stay with you throughout the design, installation and start-up phases of the project. Our commitment continues with the long term back-up which we are able to offer to our customers.

We also have extensive in-house CFD (Computational Fluid Dynamic) modelling services which can be called upon when designing furnaces or investigating furnace performance.

Other Technologies

Air Products' involvement in the non-ferrous industry does not stop with combustion based technologies. We have also developed propriety technologies for rapid heating, inerting, blanketing, stirring, degassing and heat treating non-ferrous metals. All are linked by one common theme – maximising your efficiency and reducing your costs.



European Offices:

- Austria
- Belgium
- Czech Republic
- France
- Germany
- Great Britain
- Italy
- Luxemburg
- The Netherlands
- Norway
- Poland
- Portugal
- Republic of Ireland
- Spain

Air Products is a leading international supplier of industrial gases and chemicals and related equipment. Our 17,000 employees working in over 30 countries are committed to building lasting commercial relationships based on understanding our customers' business. Through this understanding we continually find ways to help our customers win in markets around the world whilst maintaining our focus on being an industry leader in safety, health and preservation of the environment.

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