wcc world

FALL 2011

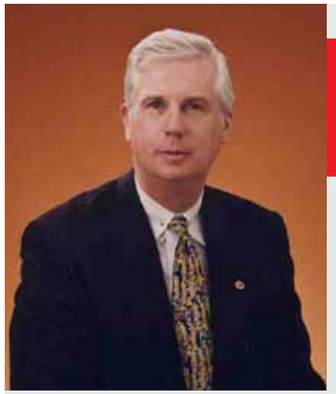
News from Wall Colmonoy

WALL COLMONOY MOVING FORWARD

REBRAND
Global Rebrand Initiative

REFRESH
Product Developments
New Team Members

RENOVATE
Aerobraze Modernization
UK Facility Site Expansion



THE CORNER OFFICE

BY **W.P. CLARK**
CHAIRMAN & CEO, WALL COLMONOY

Refresh, Rebrand, Renovate

This issue of Wall Colmonoy World entitled **"Rebrand. Refresh. Renovate. Wall Colmonoy Moving Forward"** illustrates the forward thinking and momentum occurring at Wall Colmonoy.

I am excited about this new wave of activity and see it energizing our workforce, as we continue to uphold our long-standing position as a leading global materials engineering company.

Rebrand. This past year, we embarked on a Global Rebrand Initiative to support the company's long-term growth strategy. As we continue to grow and increase our capacity to better serve our customers on a worldwide basis, we realized it vital to capture our broad range of capabilities and product offerings from a global, unified perspective. We illustrate this through our new positioning, look and communication.

Refresh. It is an evolving and volatile business environment. As technology, products, processes and market conditions change, we look at each customer's situation, each market, and each emerging technology with a fresh perspective.

This affords us the opportunity to think ahead and develop new products to apply the most appropriate solutions for our customers. Inside, read about our latest product developments on our new Nicrobraz® range developed for use in EGRs, catalytic convertors and heat exchangers, and our new line of iron-based alloys, Colferoloy®, which provide excellent wear and corrosion resistance properties.

We are adding many talented individuals to our team. In 2011, we have brought on board more than a dozen individuals. We have employees celebrating service anniversaries from 3 through 35 years of service. The hard work and effort of all our employees is truly appreciated.

Renovate. Programs are underway to enhance and improve our facilities in the United States and Europe. Read about the renovation of our Aerobraze Engineered Technologies division in Cincinnati, Ohio where we are refurbishing the building exterior and interior, redesigning and updating the machine shop and improving the test lab.

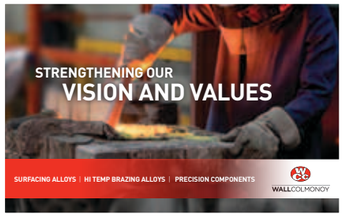
At our UK facility in Pontardawe, Swansea, in partnership with the Welsh Assembly Government, we are set to invest more than £9 million over the next four years. This new investment will not only add capacity but achieve Lean manufacturing initiatitives. This will safeguard existing jobs and create new job opportunities.

We continue to improve our manufacturing sites throughout the world using the processes of Lean manufacturing increasing our on-time deliveries, first pass yields and reducing waste.

As an industry leader, we continually improve, enhance and innovate in all aspects of our business. Our goal is to be collaborative and strategic with our customers. Our new tagline captures this:

Wall Colmonoy. Progressive Collaboration for Superior Performance. Worldwide.

WCC WORLD *features*



CONTRIBUTOR

ANN CLARK
Wall Colmonoy's Global Marketing Director, is a key contributor and is responsible for the new look and layout of WCC World. Ann works closely with the US and European teams executing the brand's strategic vision across all customer-touch points.

Check out our global website preview and update your contact details at **wallcolmonoy.com/update**

REBRAND INITIATIVE

The Global Rebrand Initiative was undertaken to support the company's long-term growth strategy.

Our goal is to communicate our full range of capabilities across a global platform in order to uniquely and credibly address our customers' evolving needs.

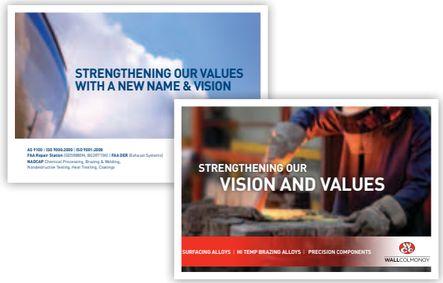
The rebrand initiative, including an updated logo, establishes a global vision for the company with a distinctive point of view that sets out to further strengthen our long-term strategic customer partnerships.

The contemporized logo captures our new positioning as a unified, progressive, collaborative and innovative organization and is stated in our new tagline:

Progressive Collaboration for Superior Performance. Worldwide.

In July 2011, we announced this initiative through a press release to the industry and by postal announcement to our customers. In the coming months, we will be unveiling our global website and updated communication materials.

Wall Colmonoy postcards:



Updated logo:

WALLCOLMONOY

TECHNICAL BULLETINS

As part of our rebrand initiative, we have updated and improved our technical data communications by redesigning and relaunching **Colmonoy News** and **Nicrobraz News**.

The bulletins provide the latest in surfacing and brazing products, applications, tips, techniques and ideas relevant to your business. Each article is written by our engineering experts in the US and Europe.

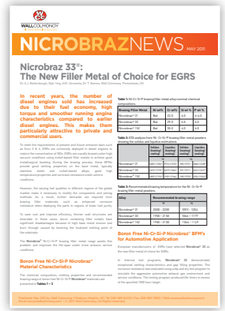
We hope you find **Colmonoy News** and **Nicrobraz News** a helpful resource for your surfacing and brazing needs.

Your thoughts, comments and feedback are welcome.

Our latest technical bulletins:


COLMONOYNEWS AUGUST 2011

Colmonoy® 88
Extends Wear of Parts, Components and Equipment in a Variety of Industries


NICROBRAZNEWS MAY 2011

Nicrobraz 33®:
The New Filler Metal of Choice for EGRS

- Colmonoy® 88 Versatility
- Properties of Colmonoy 88® Fused Thermal Spray Coatings
- Nicrobraz® 33: The New Filler Metal of Choice for EGRs
- Design and Strength of Brazed Joints

TRADESHOWS & CONFERENCES
HIGHLIGHT CAPABILITIES AND NEW MARKETING MATERIALS

POWER GENERATION SHOWS - RUSSIA & FRANCE
March and April 2011

Wall Colmonoy participated in Power Gen shows in Russia and France to unveil our new line of surfacing and brazing alloys and castings for the industry.

Our standard and custom range of nickel-, cobalt-, and iron-based powders, specially formulated for the power generation industry extend the useful life of engineered components - including thermal and hydropower plants, nuclear reactors and turbines.

Colmonoy®, Wallex™, and Colferoloy® are used as surfacing alloys for thermal spraying processes throughout the industry. These metal alloys have outstanding metallurgical and physical properties that make them ideally suited to solving wear problems.

The alloys are applied in a wide range of proven surfacing and thermal spraying techniques, including PTA (Plasma Transferred Arc), HVOF (High Velocity Oxy-Fuel), Spray & Fuse weld and Laser Cladding.

Download our Power Gen brochure at:
www.wallcolmonoy.co.uk/technical/download-centre

4th ANNUAL LASER ADDITIVE MANUFACTURING WORKSHOP Houston, TX February 29 - March 1, 2011

Wall Colmonoy exhibited its latest laser cladding surfacing powders at the 4th Annual Laser Additive Manufacturing Workshop held in Houston.

Laser Cladding provides a strong metallurgical bond with minimal dilution of the base material, exceptional thickness control, and a minimal heat affected zone. These benefits are increasing the scope and possibilities for Laser Clad coatings.

By using alloys in powder form, customers can apply Laser Clad coatings in a wide range of alloys including nickel, cobalt and iron formulations.

Wall Colmonoy's specially developed Laser Clad alloys are used for the protection and renovation of critical industrial components such as shafts, bearings and sealing surfaces in the Oil & Gas, Aerospace, Automotive and Steel industries.

ADVANTAGES OF LASER CLADDING:

- Dense microstructure = tough coating and high hardness
- Excellent bonding
- Localized heat input = little distortion
- Low dilution
- Highly controllable and precise
- Efficient, reliable and consistent

KEY APPLICATIONS:

- Rolls (Paper, Printing etc)
- Rollers for Steel Producers
- Molds
- Turbine Blades
- Medical
- Prosthesis

Contact Russ Wilcox, rwilcox@wallcolmonoy.com

ALLOY PRODUCTS

SURFACING ALLOYS NEW PRODUCT DEVELOPMENT

Colferoloy®

Our new generation of iron-based alloys, Colferoloy®, is an important addition to Wall Colmonoy's product range offering solutions against wear and corrosion.

Our global team is working closely to develop this new alloy as a replacement to hard-chrome and traditional carbide based materials commonly used within the Paper and Pulp, Agriculture, Mining and Power Generation industries. Colferoloy offers improved wear performance, reduced material costs plus environmental and safety benefits.

Colferoloy may be applied by PTA welding, HVOF and Laser thermal spray processes.

Special blends of PTA grade Colferoloy have also been formulated for the Glass industry for the restoration and protection of glass container moulds.

An Alternative to Tungsten Carbide Overlays

Colferoloy has cost saving benefits over traditional materials such as tungsten carbide, where thicker coatings can be applied, resulting in improved wear resistance at reduced cost.

Colferoloy 139, for example, provides excellent properties in dry-wear applications where its unique microstructure affords high hardness and impact resistance. Successful applications include PTA overlays of buckets and digging equipment used in Open Cast Mining.

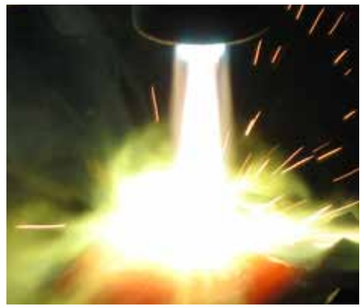
Additions of hard carbide particles in the region of less than or equal to 10% by weight have also been shown to further increase the wear and abrasion performance of Colferoloy with only a relatively small increase in cost.

Hard Chrome Replacement

Higher chromium containing Colferoloy alloys, such as Colferoloy 102, provide comparable wear performance and corrosion resistance to hard chrome plating without the high environmental cost penalty making it an excellent replacement to traditional "hard chrome" applications.

As legislation requires the elimination of hexavalent chromium (Cr(Vi)) in hard chrome plating, Colferoloy 102 is a viable option.

Important applications involving hard chrome are the hard surfacing of rolls and plates for the Printing industry and hydraulic piston stems, all of which require excellent wear and corrosion performance.



(image) **Colferoloy 139** being applied to a wear plate

Industrial Applications

The Colferoloy® range is successful in hard surfacing materials ideally suited for a number of industrial sectors where resistance to wear and corrosion are essential. These include:

- Paper, Steel, Plastic Rolls (HVOF)
- Hydraulic Piston Stems (HVOF)
- Piston Rings (HVOF)
- Agricultural Equipment (PTA)
- Open Cast Mining (PTA)
- Hard Chrome Replacement (HVOF)
- Glass Container Moulds (PTA)

Colferoloy®

	Nominal Composition	Hardness	General Use
102	Cr 31 B 3.6 C 0.6 Ni 12 Fe	570 - 600 HV	Excellent resistance to corrosion Application: PTA, HVOF
103	Cr 32 B 4.6 C 0.6 Ni 8 Fe Bal	730 - 770 HV	Excellent resistance to corrosion Application: PTA
139	Cr 20 B 5 C 0.75 Fe Bal	930 - 1000 HV	Excellent properities in dry-wear resistance High hardness and Impact resistance Application: PTA, HVOF
130	Cr 30 B 5 C 0.8 Fe Bal	930 - 1000 HV	Excellent properities in dry-wear resistance High hardness and Impact resistance Application: PTA, HVOF
Special Blends for Glass Industry			
332	Al 0.1 B 0.5 Cr 15.0 Fe Bal Ni 18.0 Si 1.5	25 Rc	Reduce porosity in overlay Application: PTA
333	Al 0.1 B 1.0 Cr 15.0 Fe Bal Ni 18.0 Si 1.5	30 Rc	Protect glass moulds of oxidizable grey cast iron or aluminium bronze Application: PTA

HIGH-TEMPERATURE BRAZING

DID YOU KNOW?

Wall Colmonoy has the widest range of nickel-based brazing filler metals.

We pioneered nickel-based brazing in hydrogen atmosphere furnaces and today, we have the widest range of nickel-based brazing filler metals.

With powder and binder production facilities in the US and EU, we offer our customers a one-stop shop for all their brazing paste requirements.

Our in-house laboratories, procedures and process control assure our products comply with the strictest requirements and meet our customers' exact specifications.

Our latest alloy developments include Nicrobraz 31, 33 and 152 for use in the fabrication of modern heat exchanger systems using optimal proportions of phosphorus and silicon.

European manufacturers of EGRs have selected Nicrobraz® 33 as the new filler metal of choice for EGRs.

We have also developed a new range of iron-based brazing filler metals under the brand Niferobraz®.

Wall Colmonoy provides application and engineering assistance throughout the world from our American and European-based teams.

Read about our latest product developments by signing up at www.wallcolmonoy.com/update

MODERN FURNACE BRAZING SCHOOL

Fall Session: AT FULL CAPACITY and a great success

At full capacity, Wall Colmonoy's Modern Furnace Brazing School, held at Aerobraze Engineered Technologies' Brazing Engineering Center, Cincinnati, Ohio on October 18-20, was a resounding success.

This course attracted Engineers and Metallurgists from companies such as Rolls-Royce, Benteler Automotive Group, Modine, and the Federal Aviation Administration.

Course attendees learned key brazing fundamentals, important tips for part and joint design and participated in vacuum brazing process.

A tour of the Aerobraze Engineered Technologies facility allowed attendees to see the brazing operations, furnaces, equipment and the steps involved in our Brazing and Quality Control processes.

Sign up at for the next session, May 2012 at:
www.wallcolmonoy.com/brazingschool
or 248-585-6400 x 233

(image) Attendee participating in the brazing process

New Name, Look, Leadership, Technology and Innovations

Aerobraze Engineered Technologies, a division of Wall Colmonoy, comes forward with a new look, talent and leadership. Advancing technology and innovations while maintaining the same intregity and values Wall Colmonoy has stood for over 70 years.

The vision at Aerobraze is to *Meet the Challenges of the Future Now* through collaboration and partnership with our customers. The result is superior Quality, Lead and Cycle Time efficiencies and "first to market" developments with existing and new products.

Aerobraze manufactures engineered components and provides technological solutions for aerospace, energy and defense industries.

This past year alone we have designed and manufactured: turbine engine exhaust ducting installed on the R66 and its Rolls-Royce RR300 turboshaft engine for Robinson Helicopter that led to a significant weight reduction for the engine while maintaining optimal strength of the assembly; a new diffuser with 7% more horsepower while lowering the cost of production; and a new coating process.

(image) **RR300 Turboshaft** specifically developed for the R66

Continuous Improvements in Quality, Cycle Time and Lean Implementation to reduce waste is our on-going objective. In the face of fierce global competition, we are concentrating more than ever on higher-quality products and on-time deliveries.

(image) **New Robinson R66**

Our organization is based on Lean and Agile Manufacturing easily adapting to unexpected changes in the marketplace. Aerobraze is designed to respond to customer demand and switch manufacturing platforms in record time.

Our immediate objective is high-quality products and on-time deliveries

We are proud to announce that the United States Air Force has awarded us a multi-year, multi-million dollar contract for the re-core of heat exchangers to support the F-15 global fleet.

This new award signifies our on-going committment to increasing customers' efficienies and cost savings in extending the life of critical parts and components for the Aerospace industry.

(image) **Front view** of the newly renovated main building at Aerobraze Cincinnati

We are committed to our future - continually investing in advancing our capabilities, manufacturing facilities and talent. At our Oklahoma facility, we added three state-of-the-art machines: CNC 500 Ton Beckwood Press, Cincinnati 90 Ton CNC Press Brake and a HAAS CNC Vertical Machining Center to increase capacity and capabilities in precision metal fabrication and heat transfer equipment process.

(image) **USAF F-15.** AET won contract with USAF to supply re-core of heat exchangers

We have gone through a full renovation and modernization process at our Cincinnati facility. The building and outside grounds have been renovated to match our vision for the future.

Justin Canterbury joined the team to run our newly renovated, modern Machine Shop in Cincinnati. Our Machine Shop is unique in that we create fully-machined, engine-ready components. Parts don't travel as all our capabilities are processed and executed in-house.

(image) **Justin Canterbury (left)**, a West Point Grad with a BSME. **John Clark (right)** is an engineering graduate of Northern Kentucky University. John worked as a Engineering co-op for AET Cincinnati since Jan 2010.

Wall Colmonoy has been setting the standards for the past 70 years and will continue to do so for years to come.

Communication, quickly adjusting and adapting to our changing marketplace and flawless execution will enable Wall Colmonoy Aerobraze Engineered Technologies to remain the World Class organization we are noted for today. We welcome you to visit.

FACILITY EXPANSION

A major facilities expansion is underway at Wall Colmonoy's European Headquarters in Pontardawe, Wales, UK

(image) **W. P. Clark** visits the new facility meeting the management group responsible for construction and planning of the layout and operations

Wall Colmonoy's European Headquarters located in Pontardawe, Wales, UK is substantially expanding its manufacturing capability and facilities to meet the rising demand for Alloy Powders (Surfacing and High Temperature Brazing Alloys), Precision Components and Aerobraze Engineered Technologies services.

A 23,500 ft^2 site, located 200 yards from the main facility, has been acquired and will house a state-of-the-art machining facility. Relocation is scheduled for January 2012.

EXPANDING TO MEET THE RISING DEMAND FOR OUR PRODUCTS AND SERVICES

In the main facility, Alloy Products manufacturing will be increased by 40% and includes a prototype line for development of customer-specific alloys. Facilities include water, inert-gas/wet collect and inert gas/dry collect atomizing systems;

INCREASING ALLOY PRODUCT MANUFACTURING BY 40%

The Precision Components foundry will be re-equipped with a state-of-the-art mould making facility, while finishing of castings will be automated;

STATE-OF-THE-ART MOULD MAKING FACILITY AND AUTOMATED FINISHING OF CASTINGS

Laboratory facilities for R&D as and Quality Control are to be expanded.

LARGER LABORATORY FACILITIES TO ACCOMODATE RANGE OF TESTING CAPABILITIES AND R&D

At all facilities, Wall Colmonoy ensures products comply with the strictest requirements meeting customer's requirements on a consistent basis. We also maintain a steady investment in R & D. The larger laboratory in the UK will continue to accommodate our extensive range of testing capabilities and be an area for development of new and innovative products and applications.

(image) **W. P. Clark** and **Management** photographed in the reception area of the new facility

We wish to acknowledge and give thanks to Peter Hain, UK Member of Parliament, and Bethan Jenkins, Welsh Assembly Member, and others who lent support in obtaining a £2m grant which will underpin this £9m expansion.

> "IN A CLIMATE OF COMPANIES CLOSING AND PEOPLE LOSING THEIR JOBS - THIS IS FANTASTIC NEWS FOR THE AREA."
>
> Peter Hain, MP of Neath

The Swansea Valley and the Pontardawe Alloy Site, where Wall Colmonoy UK is located, have a long metallurgical history dating back 200 years. The expansion continues this tradition by creating highly skilled well-paid jobs bringing the workforce to more than 270.

The new facilities have been designed to the most up to date thinking in Lean Six Sigma methodology.

Joins Trade Mission

(image) **Zoya** seen in the cockpit of an Antonov An-225 Mriya - the world's largest operational aircraft

Wall Colmonoy participated in an Aerospace Trade Mission to the Ukraine in September, joining with Rolls-Royce International, BAE Systems, Goodrich Control Systems and other leading international businesses.

Zoya Tadzheva-Leven represented Wall Colmonoy.

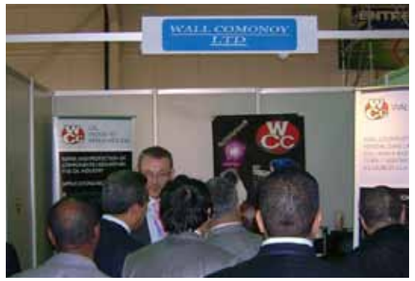
A native Russian based at Pontardawe, she is an Engineer responsible for Marketing and Sales Development in Russia, Ukraine and other states in the region.

She met with Antonov and Ukrainian National Aerospace Agency group and visited the 7th International Aviation and Space Salon AVIASVIT-XXI in Kiev.

(image) **Zoya** with **Captain John Foreman**, British Defense Attaché in Ukraine, and **Mr. Richard Smith**, International Trade Adviser UK Trade & Investment

Promoted Products and Capabilities at **Algerian Oil + Gas**

Algerian Oil & Gas Expo (better known as Hassi Messaoud) ran for 5 days in January.



We promoted our surfacing powders and coating services for Oil & Gas at this expo.

The event attracted thousand of professionals from the Oil & Gas industry and included conferences and business workshops.

Giving Back

Restoration of the 'Bell of Santiago' Chile

In September 2010, All Saints Church in Oystermouth Swansea*, some 14 miles from Pontardawe, gifted to the people of Santiago three bells to form the centerpiece of a memorial to those who lost their lives in a terrible fire that destroyed the Church of La Campania de Jesus in 1863.

The small bell of Santiago, which will remain at All Saints, has been fully restored by Wall Colmonoy as a gift to the church. The work was carried out by Rian Davies, who is a metallurgical technician in the Aerobraze Division since 1976.

Un trabajo bien hecho – Ddiolch Rian!
(Job well done, thanks Rian)

*Swansea has a close connection with Chile from the days in the mid 1800s when the town was the centre of world copper extraction mainly from Chilean ores.

Civil Service Award from the Queen

Sue Feathers, wife of Mike Feathers, Maintenance Technician at Pontardawe facility, received the prestigious Civil Service Award for Employee Engagement and Well-being.

Civil Service Awards took place in Buckingham Palace on November 15, 2010 honoring civil servants – both in Britain and overseas - who have done something extraordinary to make people's lives better.

Sue and her colleagues knew that they had been shortlisted but did not know until the award ceremony that they had won their overall category. The win meant that they were presented to Her Majesty The Queen who hosted a reception after the award ceremony.

(image) **Sue Feathers**, third from the left, and her colleagues with **Sir Gus O'Donnell**, Cabinet Secretary and Head of the Civil Service

(image) Speaking with **Her Maesty** who showed great interest in the work of the team

2011 SERVICE AWARDS

Nearly 500 talented individuals are employed by Wall Colmonoy at our various facilities and divisions throughout the world.

We recognize the dedication and hard work from those who have been with us for many years.

Wall Colmonoy is proud to congratulate the following individuals who are celebrating service anniversaries this year. We also have many employees who are celebrating their three and five year service anniversaries. We salute them as well.

35 YEARS

Aerobraze Engineered Technologies
Oklahoma City, OK
Kenneth Daughty

Wall Colmonoy Ltd., UK
Rian Davies

30 YEARS

Wall Colmonoy Ltd., UK
Byron Davies

25 YEARS

Wall Colmonoy Ltd., UK
Stephen Gosney
Ian Morgan
Paul Corry
Paul Davies

20 YEARS

Wall Colmonoy Ltd., UK
Peter Williams

15 YEARS

Wall Colmonoy,
Los Lunas, NM
Ricky Beca
Leroy Benevidez

Wall Colmonoy,
Madison Heights, MI
David Riley

Wall Colmonoy Ltd., UK
Andrew Miles
Dean Gregory
Michael Sharp
Gary Adams
Gwyn Lewis Davies
Jason Thomas
Steven Matthers

10 YEARS

Wall Colmonoy,
Los Lunas, NM
Dennis De Herra

Wall Colmonoy Ltd., UK
Christopher Martin
Carl Carter

(from left to right) **Byron Davies** (30 years), **Rian Davies** (35 years)

(from left to right) **Peter Williams** (20 years), **Paul Corry** (25 years), **Paul Davies** (25 years), and **Ian Morgan** (25 years)

Stephen Gosney (25 years)

Dave Riley (15 years)

(from left to right) **Leroy Benevidez** (15 years), **Ricky Beca** (15 years), **Dennis De Herra** (10 years)

New hires

Alloy Products

BALKRISHNA GINDE
DIRECTOR BUSINESS DEVELOPMENT, INDIA & GULF

ZOYA TADZHEVA-LEVEN
SALES MANAGER, RUSSIA

Wall Colmonoy Technologies (France)

VIMAL RAMESSUR
FINANCE DIRECTOR

RAJESH KAMBRATH
PRODUCTION DIRECTOR

Aerobraze Engineered Technologies

ED RIDGE
CHIEF OPERATING OFFICER, USA

JUSTIN CANTERBURY
BUSINESS UNIT MANAGER, MACHINE SHOP

JOHN CLARK
PROCESS ENGINEER

MARK STEWART
MATERIAL / PURCHASING, USA

GILES CORBETT
TECHNICAL SALES MANAGER, UK

WALL COLMONOY
101 W. Girard
Madison Heights, MI
48071

WALLCOLMONOY**. Progressive Collaboration for Superior Performance. Worldwide.**

WALL COLMONOY

WALL COLMONOY. A GLOBAL MATERIALS ENGINEERING group of companies engaged in the manufacturing of surfacing and brazing products, castings, coatings, and engineered components.

Known for our unique proven way of creating superior performing alloys that enhance engineered components, we pride ourselves on long-term strategic customer collaboration that produces value-added ideas and creative solutions.

Combining over 70 years of engineering technology with a progressive, visionary outlook, Wall Colmonoy offers customers trusted, customized expertise that results in smart innovation and shared growth.

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LOS LUNAS | CINCINNATI | DAYTON | OKLAHOMA CITY | WINDSOR, CANADA | PARIS