



# WA Integra™

Hardfacing and cladding  
for more resistant parts





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The Welding Alloys Group is the world's leading manufacturer of cored welding wires, automated welding equipment and provider of specialist services for repair, rebuilding, cladding and hardfacing components to restore parts or to improve service life.

WA Integra is an integrated part of the Welding Alloys Group specifically set up to support industries that require wear control and performance optimisation.

Using the WA Integra hardfacing expertise on components that have been designed, manufactured or used by its clients, the Welding Alloys Group can draw on its long term commitment to in-house research and development, combining mechanical expertise and metallurgical technology.

Globally renowned for the quality of service we provide to industry from our workshops and on-site operations, WA Integra provides a reliable and cost-effective engineering partner for local and international companies alike, leading the way in advanced welding technology.



# Integra products and solutions

WA Integra have developed a unique level of expertise in cladding and hardfacing, whether in-situ or in our own Integra Service Centres. Our teams of highly experienced welding engineers have mastered the deposition of noble alloys, with tried and tested processes using Welding Alloys cored wire and automated equipment.

However, Welding Alloys is not only a welding service supplier, our Integra engineers also work with our global research and development teams to produce specific products with unique features and benefits.

## Integra Products

### Composite wear plates

- **Integra Hardlite®:** Abrasion resistant ultra thin plates designed for applications where weight or thickness is restricted.
- **Integra plates:** A range of wear plates with specific characteristics, satisfying most of the demanding applications in an abrasive environment.
- **Manufactured parts from composite wear plates:** Components and parts made of Hardlite or Integra plates, cut, bent, rolled, slotted, fabricated, assembled or welded.



### 3-DCarb™

A proven technology to substantially increase the service life of heavily wearing critical parts. 3-DCarb bulk deposits outlast conventional welded protection and castings in resisting against combined wear.



### Integra Mill

Integra Mill welding cored wires are specially designed for hardfacing and re-profiling of grinding components in vertical grinding mills for raw, clinker, coal, blast furnace slag and other minerals.

Integra Mill products combined with Welding Alloys application technology are used with outstanding results on rolls and tables of all types: improving the service life, grinding efficiency and energy consumption.



### Advanced Components

Specially designed and manufactured machinery components for better productivity and longer service life. Fabricated and hardfaced in our Integra Service Centres according to a specified design, these components incorporate the most advanced corrosion and wear resistance solutions.



## Specialists for repair, cladding and hardfacing by welding

### Integra Solutions

In partnership with the customers and according to their specifications, Welding Alloys offers a full range of services and several solutions:

- Assessment and analysis of parts and their working conditions; procedure's development, applications and measures control ensuring high standard quality throughout the job.
- Supply of our own designed long lasting and reliable hardfaced components.
- Application of highly efficient cladding or hardfacing procedure with the use of simultaneously operating fully automated welding heads.

### Integra Resources

- Welding engineers, certified welders and experienced teams.
- Strategically located fully equipped Integra Service Centres with all handling facilities.
- Multilingual personnel, able to intervene rapidly in any worldwide location. Large international teams can be built to cope with exceptional demand.
- Equipped with the latest Welding Alloys specialised welding equipment.
- Mobile Service Centres: work in-situ with or without disassembly.
- Share of "best working practice" within the Integra Service Centre network.

### Integra Guarantees

- Sole use of Welding Alloys controlled and tested consumables.
- Work performed according to procedure specification and qualification established and controlled by qualified engineers. Application carried out by strictly supervised operators.
- Control or non-destructive testing by external certified or independent laboratory upon request.
- Follow up of results.

### Integra Safety

- Operators trained and equipped for safety in various environments.
- Training for specific safety certificates feasible.
- Respect of the environment, elimination of welding fumes and residues according to the local legislation.



# Hand in hand with industry

WA Integra engineers have built up a worldwide reputation in many industries. Manufacturers of industrial equipment recommend Integra services as a result of the high quality welding services provided and the superior components' performance achieved.

## Cement and building materials

- Vertical mills
- Roller presses
- Ventilators
- Ducts and elbows
- Chutes
- Crushers
- Clay processing equipment

## Steelmaking and metallurgical

- Sinter plants
- Blast furnaces
- Converters
- Continuous casters
- Rolling mills
- Forging plants
- Foundries

## Mining, earthmoving and construction

- Quarry equipment
- Crushers
- Tunnel Boring Machines
- Concrete mixers
- Dredging

## Energy

- Turbines
- Pulverised Coal Mills
- Hammer mills
- Ventilators
- Boiler tubes and panels

## Other industries

- Oil and Gas
- Food industry
- Agriculture
- Sugar plants
- Petrochemicals
- Raw chemicals
- Pulp and Paper
- Waste treatment
- Glass industry



**World leading companies are relying upon Integra for weld repair, cladding and hardfacing**



## Integra case studies



### Pushing the limits in vertical mill hardfacing:

In cement, power or steel plants, vertical mill maintenance is associated with production losses during stoppage and restart of the production. To reduce the dramatic effect on downtime, WA Integra has developed its own strategy: thorough work preparation and planning, use of multiple welding heads and simultaneous welding of several components inside the mills. This maximises the efficiency and the deposition rate, dramatically reducing the downtime period.



### Substantial reduction in maintenance costs:

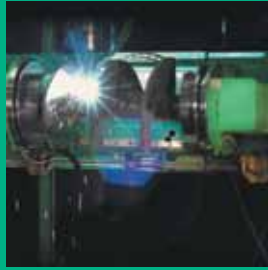
In a steel mill, on a sinter production line, different components were failing rapidly at different time intervals. After a thorough analysis, Integra experts proposed several actions to increase significantly the service life of the most critical components and improve the behaviour of the others. This new maintenance program, with only one stoppage per year, was implemented resulting in a reduction in parts' costs, production downtime, energy consumption and a gain in production.

## A perfectly controlled technology



### **WA Cored Wires™**

Design and manufacture of all types of cored welding wires



### **WA MultiSurfacer™**

Design and manufacture of automated welding equipment for hardfacing and rebuilding applications



### **WA Integra™ Services**

Innovative hardfacing and rebuilding solutions by welding

## A worldwide presence

**United Kingdom  
(Head office)**  
Welding Alloys Ltd

**Argentina**  
Welding Alloys Argentina S.A.

**Australia (Trading Partner)**  
Specialised Welding Products Pty Ltd

**Brazil**  
Welding Alloys Brasil Ltda

**China**  
Welding Alloys China Ltd

**Egypt**  
Welding Alloys Egypt

**Finland**  
Welding Alloys Finland Oy

**France**  
Welding Alloys France SAS

**Germany**  
Welding Alloys  
Deutschland GmbH

**Greece**  
Welding Alloys Hellas EPE

**India**  
Welding Alloys  
South Asia Pvt Ltd

**Iran**  
Aliaj Joosh Iran

**Italy**  
Welding Alloys Italiana s.r.l.

**Japan**  
Welding Alloys Japan

**Malaysia**  
Welding Alloys (Far East) Sdn. Bhd.

**Mexico**  
Welding Alloys  
Panamericana S.A. de C.V.

**Morocco**  
Welding Alloys Maroc Sarl

**Poland**  
Welding Alloys Polska Sp. z o.o.

**Russia**  
ZAO Welding Alloys

**South Africa**  
WASA (PTY) Ltd

**South Korea**  
Welding Alloys Korea Ltd

**Spain**  
Welding Alloys España

**Sweden**  
Welding Alloys Sweden

**Thailand**  
Welding Alloys (Thailand) Co. Ltd

**Turkey**  
Welding Alloys Limited Şirketi

**Ukraine**  
Welding Alloys Ukraine

**United Arab Emirates**  
Welding Alloys Middle East FZC

**USA**  
Welding Alloys (USA) Inc.

**Vietnam**  
Welding Alloys Vietnam Co. Ltd.

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