



ColWear 62-1 coating morphology

Description:

ColWear Plates are the ultimate protection for abrasive, erosive, corrosive, high temperature and impact applications.

ColWear Plates are coated with Colmonoy® surfacing alloys with a minimum nominal hardness of 58HRc and regions of ultrahigh hardness (>72HRc) in the form of different types of carbide in its delivered condition.

ColWear Plates are smooth, crack free, lightweight, have minimal base plate dilution and provide consistent hardness down to the interface.

ColWear Plates can be precision cut to shape via water jet, laser or plasma and welded to form complex fabrications. ColWear Plates are light in weight for ease of handling, forming and fabrication.

ColWear Plates are repairable in service with use of Wall Colmonoy Fusewelder™ Torch to minimise process downtime.

ColWear Plates are utilised in applications where your conventional abrasion resistant plate does not provide the lifetime required. Examples of installation areas are*:

- Industrial Fans – Impellers and Fan Casings, Ducting and Extraction Systems, Baffle Systems

ColWear 62-1:

Smooth, Crack Free, Lightweight. Ultimate Protection for Abrasive, Erosive, Corrosive, High Temperature and Impact Applications

- Mining – Slurry Processes and Orifice Plates, Buckets & Chutes for Material Handling, Skip Cars, Helical Feed Screws
- Cement – Buckets, Chutes & Liners for Material Handling
- Biomass – Cyclones
- Steel – Chutes, Buckets & Chutes for Material Handling, Sinter Screens, Coke Car Liners

*Further application areas are possible and not limited to the examples shown above.

ColWear Plates are produced in plate form and are available in standard or nonstandard plate sizes with a variety of coating thickness to meet the needs of your application.

Dimensional Range:

Plate Dimensions	Plate Thickness	Coating Thickness
Standard – 1200mm x 800mm	Standard – 4mm	Standard – 2mm
Non-Standard – Up to 1500mm x 1000mm*	Non-Standard – Up to 25.4mm*	Non-Standard – Up to 8mm*

*Non-standard plate size and coating thickness is available upon request

Mechanical Properties:

Plate Dimensions	Hardness ¹
Standard – 4mm + 2mm	Minimum 58-64HRc
Non Standard Mechanical Properties Available Upon Request	

1. Hardness measured on cross sectioned polished surface

ColWear Plates maintains consistent product hardness throughout thickness of the coating.

Impact Properties:

ColWear 62-1 can be utilised in impact applications where a sufficient cross-sectional thickness is used. Testing has indicated that ColWear 62-1 is receptive to both repetitive impact and single impact type scenarios. Specific details relating to the impact performance of ColWear are available upon request to ColWear@wallcolmonoy.co.uk.

Nominal Composition - % by Weight:

B	C	Cr	Fe	Si	Ni
3.2	0.7	15.5	4.0	4.2	Bal

Hard nickel-chromium-boron alloy containing chromium carbides. Excellent abrasion, erosion, high temperature and impact environments. It is recommended that ColWear 62-1 is not generally used to protect against corrosion alone. The base matrix alloy is not resistant to ferric chloride and hot or concentrated nitric acid and should not be used in sodium sulphite liquor or lactic acid (milk products). Other matrix materials can be offered to satisfy different application requirements, with details available upon request to ColWear@wallcolmonoy.co.uk.

Tolerances:

Specific details are available upon request to ColWear@wallcolmonoy.co.uk.

Thickness:

ColWear 62-1 will be supplied to +/- 0.1mm of the specified/ordered total coating thickness across the coated area of the sheet.

Length and Width:

ColWear will be supplied to +/- 0.1mm of the specified/ordered total thickness.

Shape & Flatness:

ColWear 62-1 will be supplied on a best effort basis across the entirety of the product range.

Forming:

It is not recommended that this product be formed to angles over 30°. For instances where angles over this value are required, the coating can be repaired locally if cracking occurs. Wall Colmonoy holds no liability for cracking induced within the coating.

Bending:

ColWear 62-1 can be bent to form pipework where an abrasion, corrosion, erosion and impact resistant coating is required on the internal face of the pipework. It is not recommended that ColWear 62-1 be utilised for diameters smaller than 300mm.

Welding:

It is recommended that welding be carried out on the weldable base plate and that full penetration welds are not used. ColWear 62-1 can be TIG welded with filler metals that are consistent with the chemistry of the matrix alloy. Specific details are available upon request to ColWear@wallcolmonoy.co.uk.

Delivery Conditions:

ColWear 62-1 can be supplied in plate form or to drawing, where a specific profile is required. ColWear 62-1 can also be supplied with or without holes, both as clearance or countersunk holes. ColWear 62-1 is delivered with a water jet cut edge if requested.

Fabrication and other recommendations:

Specific details are available upon request to ColWear@wallcolmonoy.co.uk. ColWear 62-1 is not designed for further heat treatment. Appropriate Health & Safety considerations must be taken into consideration upon further working of the product. The SDS for the Colmonoy® product is available upon request to ColWear@wallcolmonoy.co.uk.

Wall Colmonoy holds no liability should cracking occur during welding, bending or cutting of the product.

Contact Information:

ColWear Plates
Wall Colmonoy Limited (UK)
P. +44 (0) 1792 862287
E. ColWear@wallcolmonoy.co.uk

Safety:

When installing, cutting or welding ColWear Plates using Plasma or Laser cutting methods, please consult local Health & Safety guidelines as such operations can produce carcinogenic fumes.

Storage Requirements:

Store ColWear Plates in a dry environment away from moisture.

The information provided herein is given as a guideline to follow. It is the responsibility of the end user to establish the process information most suitable for their specific application(s). Wall Colmonoy Limited (UK) assumes no responsibility for failure due to misuse or improper application of this product, or for any incidental damages arising out of the use of this material.

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