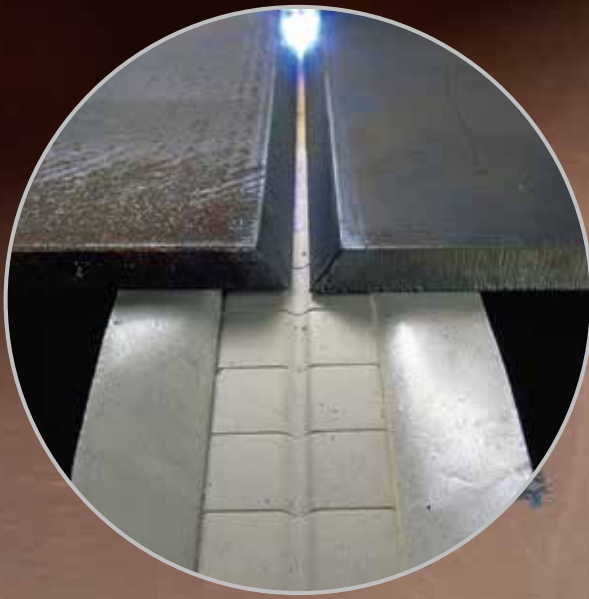


HIGHLIGHT ON **KERALINE** PRODUCTS



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LINCOLN[®]
ELECTRIC

HIGHLIGHT ON KERALINE PRODUCTS

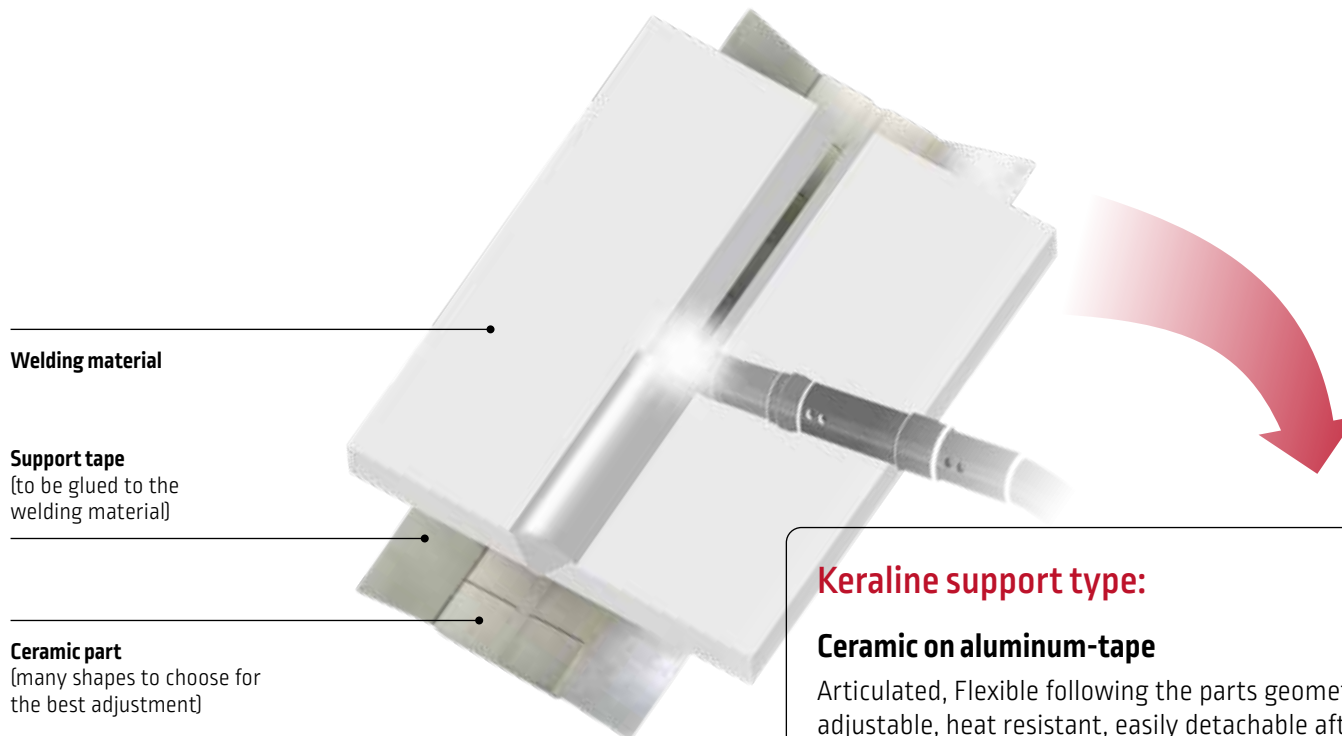
How to improve the process and increase productivity (DCR)?

✓ **Avoid welding both sides of the metal part**
NOT NECESSARY TO TURN THE METAL PARTS

✓ **Save filler metal**
REDUCES OVERHANG

✓ **Nice appearance of the root pass**
CURVED OR FLAT

✓ **OUR KERALINE IS NOT SENSITIVE TO**
AMBIENT TEMPERATURE VARIATIONS



Welding material

Support tape
(to be glued to the
welding material)

Ceramic part
(many shapes to choose for
the best adjustment)

Keraline support type:

Ceramic on aluminum-tape

Articulated, Flexible following the parts geometry, adjustable, heat resistant, easily detachable after welding.

Ceramic on metallic support

Quick implementation, easily positioned, adjustable, heat resistant.

Welding processes

- SAW
- GMAW
- FCAW
- SMAW

Potential customer

Canister, reservoir, cistern, difficult accessibility and x-bevel manufacturer

Application

- Butt weld square or beveled
- Outside welding for tank
- Circumferential weld [tank, valve, etc.]
- User of “copper” backing, which can be replaced by ceramic

BENEFITS

For a well-made welding bead:

- Without copper contamination
- Without risk of burn through in the first pass position (used as a support)
- Without re-welding
- Without risk of lack of fusion
- No turning of the work piece
- Bigger root thickness permits higher welding current for the hot pass
- An increase in first pass deposit rate
- Wide root gap
- Total penetration without turning the parts to be welded
- Total penetration of joints difficult to access in reverse position
- Smooth profile of the root pass

For a well-made weld preparation before welding:

- Ideal to compensate for variations in preparation of sheet edge backlashes
- Easy to use (adhesive/metallic support)
- Simplify chamfering preparations

For higher productivity:

- Without gouging operation
- Without grinding operation
- Provides time saving and high quality
- Easy-to-use slats technique

KERALINE has a very low moisture absorption rate and a high melting point, allowing use at high welding intensity, up to 600A.

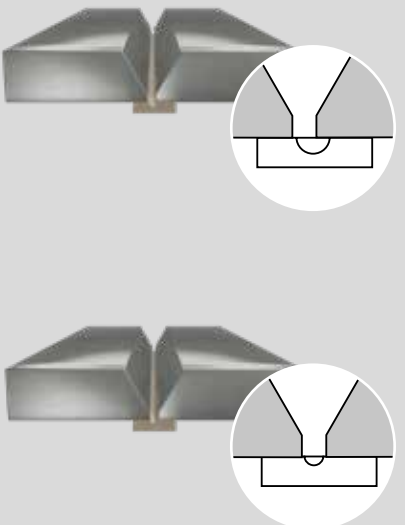


INSTRUCTIONS FOR USE

- Slat plating on welding parts should be as accurate as possible
- Deformation of parts during welding results in adhesive detachment and lifting of ceramic slat, in some cases
- Requires cleanliness of application surfaces of support ceramic backing adhesives

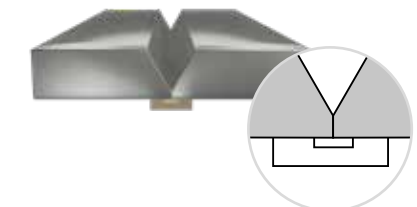
- Provide accessibility to remove the ceramic backing
- Use the dotted red line marked, on the KERALINE, to allow centering and correctly position the ceramic backing.
- Positioning of the support slat is critical to the appearance of the penetration bead and the weldability of the first pass.

Incorrect:

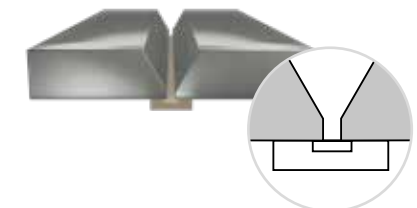


ATTENTION: Do not select a too small radius of the circular or flat ceramics when butt welding.
Tube Diameter Lower <400 risk of extra thickness at the junctions of the ceramic backing.

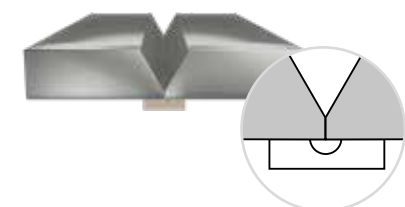
Correct:



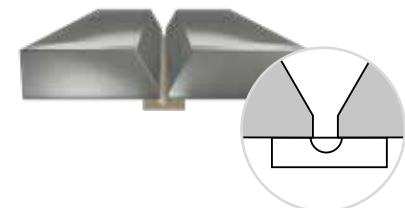
Without gap between metal plates



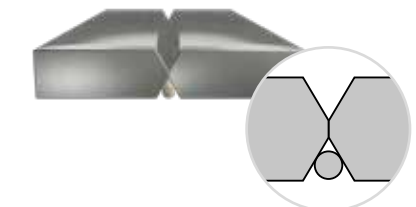
With gap between metal plates



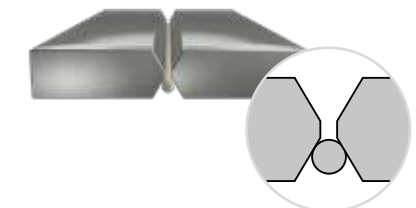
Without gap between metal plates



With gap between metal plates



X-bevel without gap



Cylindrical / round ceramic backing:
Diameter to be determined according to the weld preparation and gap

OUR LINCOLN ELECTRIC OFFER – KERALINE

Choice of KERALINE slat type depending on the welding process:

	KERALINE TM2	KERALINE TM1	KERALINE TR6	KERALINE TR5	KERALINE TR4	KERALINE TR3	KERALINE TR2	KERALINE TR1	KERALINE TF3	KERALINE TF2	KERALINE TF1	KERALINE TA3	KERALINE TA2	KERALINE TA1
MMA	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–	✓	–	–
TIG	✓	✓	–	–	–	–	–	–	–	✓	✓	–	✓	✓
MIG/MAG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SAW	✓	✓	–	–	–	–	–	–	–	–	–	–	–	–



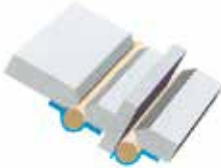



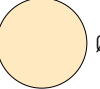
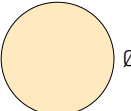
1

Cylindrical / round type

GMAW, FCAW, SMAW

- Application: Medium to heavy thickness
- CHAMFER IN V or X for identical or dissimilar thickness

Ceramic-on-aluminum tape

Type	Reference	Dimensions (mm)	3D diagram	Application	Packing
KERALINE TR1-6 mm	W000010397	 Ø 6			600 mm / piece 50 pieces per bag (30 meters) 5 bags/carton (150 meters)
KERALINE TR2-7 mm	W000010398	 Ø 7			
KERALINE TR3-8 mm	W000010399	 Ø 8			
KERALINE TR4-9 mm	W000010400	 Ø 9			
KERALINE TR5-12 mm	W000010401	 Ø 12			
KERALINE TR6-15 mm	W000010402	 Ø 15			

2

Flat with rounded concave groove

Metal core or solid wire without slag

- Application: Medium to heavy thickness

3

Flat with square concave groove (allows you to clear the slag on the side)

Cored wire with slag, MIG MAG, V-bevel

- Application: Same thickness medium or thick

		Type	Reference	Dimensions (mm)	3D diagram	Application	Packing
Ceramic-on-aluminum tape	2	KERALINE TA1-6 mm	W000010391				600 mm / piece 10 pieces per bag (6 meters) 6 bags/carton (36 meters)
		KERALINE TA2-9 mm	W000010392				
		KERALINE TA3-13 mm	W000010393				
	3	KERALINE TF1-6 mm	W000010394				600 mm / piece 10 pieces per bag (6 meters) 6 bags/carton (36 meters)
		KERALINE TF2-9 mm	W000010395				
		KERALINE TF3-13 mm	W000010396				
Ceramic-on- metallic support		KERALINE TJ10 T FULL PENETRATION	W000262368				600 mm / piece 10 pieces per bag (6 meters) 6 bags/carton (36 meters)
		SET OF CERAMIC BACKING RAD 150	W000275493				16 pieces /Circle 18 Circles/carton (18 meters)
		SET OF CERAMIC BACKING RAD 200	W000275532				4 pieces/Segment 20 Segments / SET 12 Sets/carton (12 meters)
		SET OF CERAMIC BACKING RAD 100	W000404095				12 pieces /Circle 22 Circles/carton (22 meters)
Ceramic-on- metallic support		KERALINE TM1-13 mm	W000010403				600 mm / piece 10 pieces per bag (6 meters) 7 bags/carton (42 meters)
		KERALINE TM2-18 mm	W000010404				600 mm / piece 9 pieces per bag (5.4 meters) 5 bags/carton (27 meters)

APPLICATION EXAMPLE

Tank – Reservoir



Avoids back pass (on the other side), protection of molten metal, flexibility, adapts to a wide range of sizes.



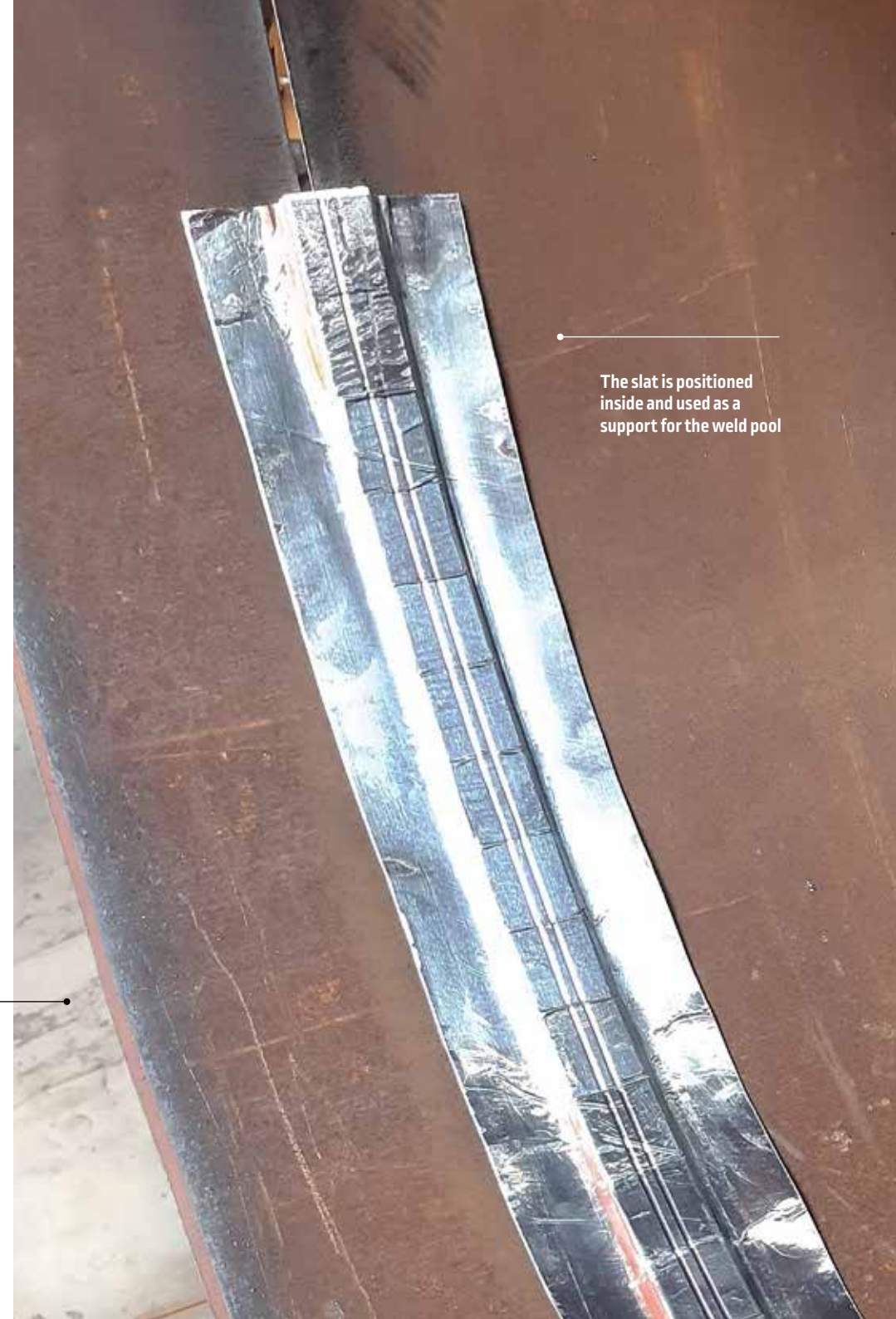
Without Ceramic backing means:

Time for:

- Welding first pass without backing and filling first side
- Flipping the piece over
- Gouging operations down to sound metal
- Crack detection operation
- Control operation
- Filling (re welding)

As well as the cost of the consumable used.

The saving for the customer is variable depending on labour cost and fixed costs of the company.



The slat is positioned inside and used as a support for the weld pool

Allows welding outside the tank

CUSTOMER ASSISTANCE POLICY

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