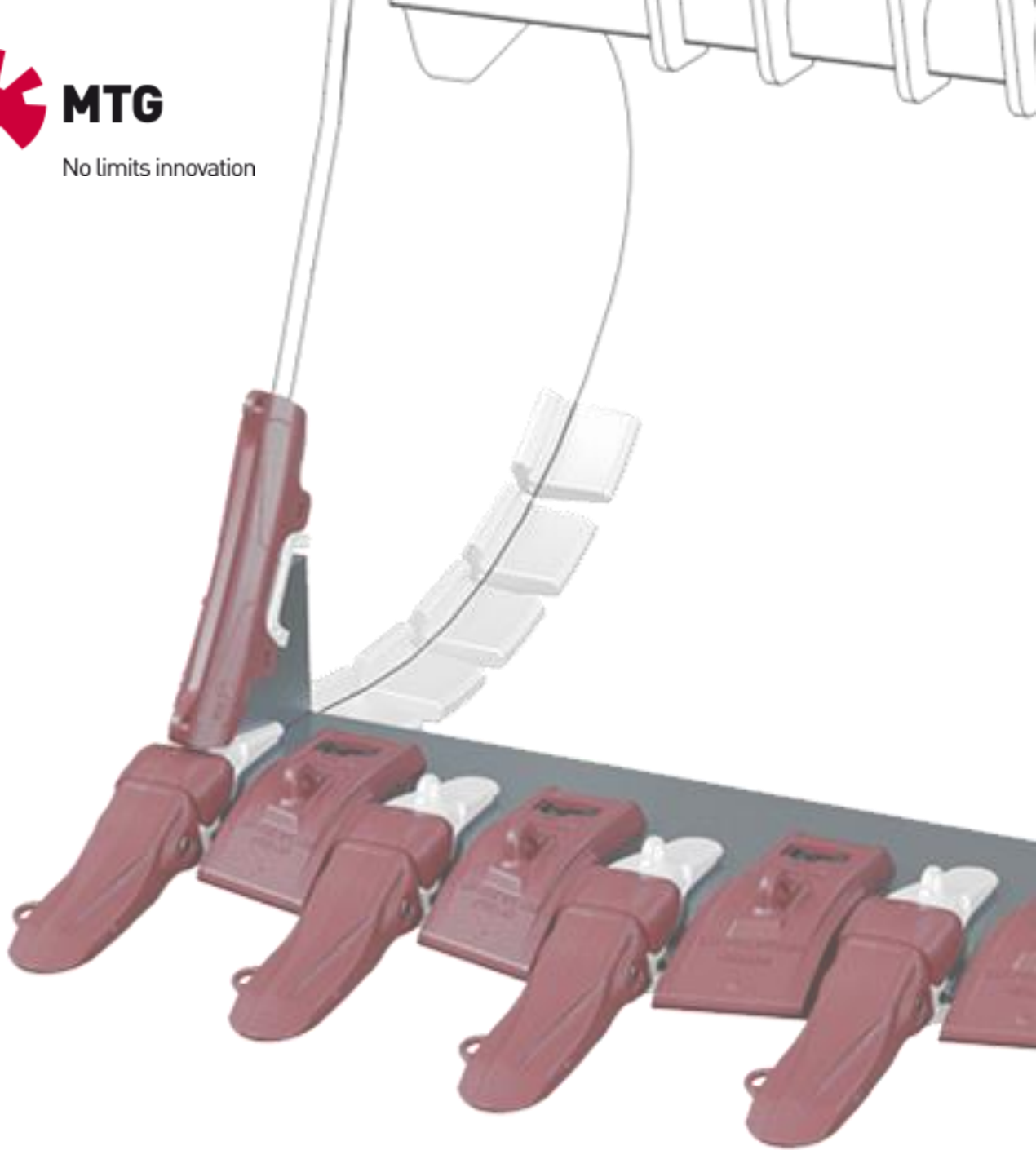




**MTG**

No limits innovation



**INS.3.2.4**

# **PLUS Weld-on Plate Lip Shrouds**

Installation procedure

## DISCLAIMER

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## 1. SAFETY

The practices described in this manual can be taken as guidelines for operating safely in many conditions and in addition to the safety standards that are current and enforceable in your area or region.

Your safety and the safety of third parties is the result of putting into practice your knowledge of the correct operational procedures.

Attention, when performing the work described in these instructions, always work safely and use the personal protection elements required to minimize or avoid injury. Always wear:



To avoid eye injury, always wear safety goggles or a protective mask when using any equipment, hammer or similar tool. When equipment is under pressure or when objects are struck, chips or other debris can be thrown out. Make sure no one gets hurt by the debris that is fired before applying pressure or hitting an object. Wear eye protection that complies with ANSI Z87.1 and OSHA standards. Also wear hearing protection and gloves.

Lifting a heavy object can cause serious or fatal injury. DO NOT exceed the maximum rated capacity of lifting and positioning devices: Stay away from the area under a suspended load.



**LIFTING LUG**

Make sure that the chain is not damaged and that the load is always balanced.

## 2. WELDING

Following is a quick reference on consumables that can be used to weld MTG products. For a complete reference on welding procedures, refer to the document entitled "General welding recommendations".

### WELDING UNALLOYED FILLER CONSUMABLES

PROCESS	EN CLASS	AWS CLASS
SMAW	EN ISO 2560-S E42X	E70X ACCORDING TO A5.1 OR EQUIVALENT UNDER A5.5
	EN ISO 14341-A G42X	E70C-X ACCORDING TO A5.18 OR EQUIVALENT UNDER A5.28
GMAW	EN ISO 14341-A G46X	E70S-X ACCORDING TO A5.18 OR EQUIVALENT UNDER A5.28
	EN ISO 16834-A T42X	E7XT-X ACCORDING TO A5.20 OR EQUIVALENT UNDER A5.29

### WELDING AUSTENITIC STAINLESS FILLER CONSUMABLES

PROCESS	AWS CLASS
SMAW	E307-X ACCORDING TO A5.4
	ER307T-X ACCORDING TO A5.22
GMAW	ER307 ACCORDING TO A5.9
	307-X ACCORDING TO A5.22

NOTE: "X" MAY STAND FOR ONE OR SEVERAL CHARACTERS

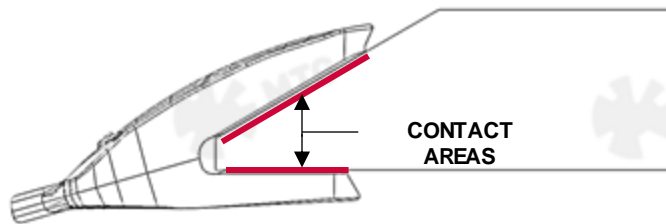
## 3. IMPORTANT

Read the full document prior to start any operation since there are some steps which may require previous verifications/operations.



## 4. INSTALLATION PROCEDURE

- 4.1** All mill scale, rust, paint, oil grease, arc air slag or moisture shall be removed from the surfaces within 12.5 mm / 0.5 in. of any weld location. The surfaces must be sufficiently clean so that there is nothing that might contain moisture or hydrocarbons, which break down in the heat of the arc producing hydrogen, which can be absorbed in the weld and cause cracks. Removal may be accomplished by shot blasting, sand blasting, grinding or machining. Any porosity, burned-in sand or other defects visible on the weld prep surfaces must be removed by grinding or arc air gouging.
- 4.2** Place the shroud on the plate as per the desired location. Bevel angle and bottom surface should be in full contact as shown in figure below.

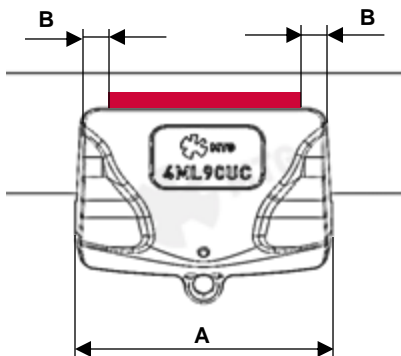


- 4.3** Preheat shroud and lip to a temperature between 175°C and 200°C (347°F and 392°F) within an offset of 100mm / 4in all around according to what is exposed on the document entitled "General welding recommendations". Do not overpass 250°C / 482°F.

Consider the areas to be welded and those that do not according to the following figures:



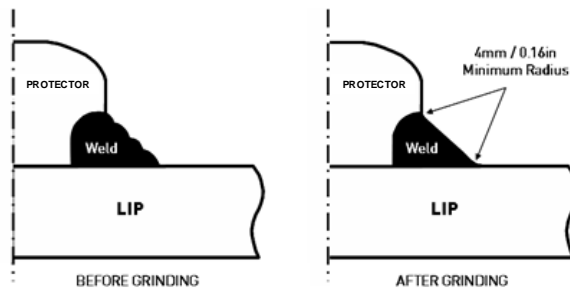
- 4.4** Ensure the correct placement of the protector whilst ensuring the bevel and bottom surface contact. Proceed with the tack weld on the upper and lower welding areas to fix its position prior to perform the welding beads.



### WELDING DISTANCE

LIP PROT WIDTH "A"	B	
	mm	INCHES
150-200mm	20	13/16
200-300mm	30	1 ¼
300-500mm	40-50	1 5/8 - 2
500-1000mm	50-75	2 - 3

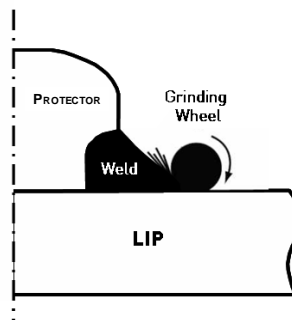
- 4.5** Proceed with the welding beads either at the top / bottom welding area and alternate the following beads to minimize the deformations and residual tensions. The “B” dimension free of welding shall be respected according the previous detail tab.
- 4.6** Both welding areas shall be dully filled and shall maintain a constant thickness along all the width of the protector length.
- 4.7** Ensure that the welding technique comply with what is exposed in the document entitled “General welding recommendations”.
- 4.8** Grinding shall produce a smooth surface free of roughness and unevenness associated with the weld beads. The toes of the welds shall merge smoothly with the lip and the protector with a minimum radius of 4mm - 5/32 in.



Grinding shall be done using high speed electric or pneumatic grinders with grinding wheels no larger than 50mm - 2 in. in diameter. **ANGLE HEAD OR DISK GRINDERS ARE NOT ALLOWED FOR THIS WORK.**

Grinding shall be done with the perimeter of the wheel and not the face. The grinding direction must be perpendicular to the toes of the welds as it is described in the following illustrations:

Proper Grinding Directions:



- 4.9** Repeat the sequence on all the rest of stations.
- 4.10** After completion of welding, all welds shall be subjected to visual and magnetic particle inspection. Any detected welding crack must be cleaned and repaired.



## Service Instructions

The latest welding recommendations and assembly / disassembly instructions can be found online:

[www.mtgcorp.com/manuals](http://www.mtgcorp.com/manuals)

Please contact Technical Services in case of questions:

[technical.services@mtg.es](mailto:technical.services@mtg.es)



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