

MECHANICAL HEEL SHROUD

PRODUCT WELDING PROCEDURE

SHARK™ GROUND ENGAGING TOOLS

1.0. PRE-HEAT & INTER-PASS TEMPERATURES

This document establishes the procedural requirements for the welding of the quad adapter plates and single adapter plates of the Sandvik Shark Mechanical Heel Shroud Products. Refer Figure 1 for the applicable parts.

2.0. PARTS

Shown below are the parts to be welded onto the bucket.

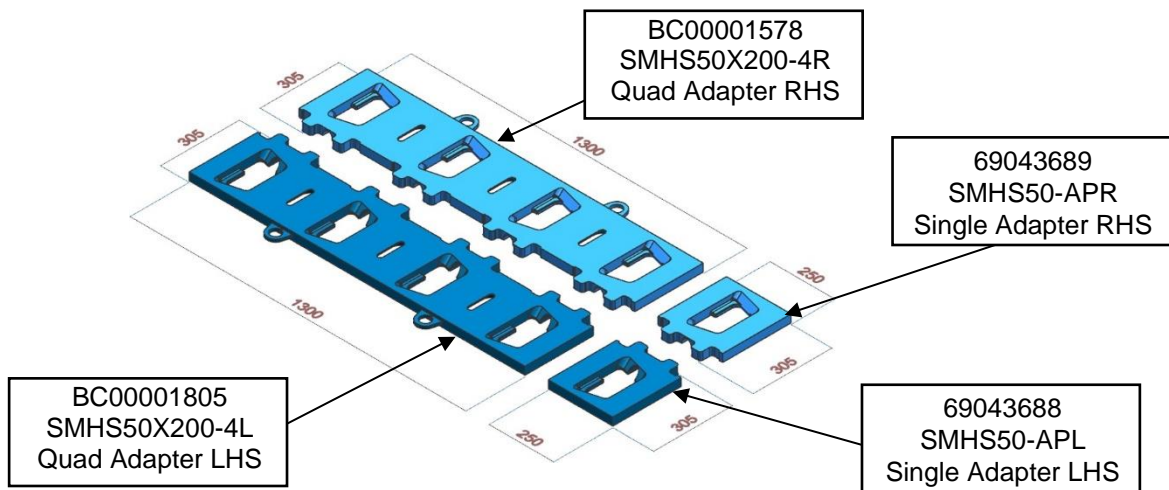


Figure 1

3.0. PREHEAT & INTER-PASS TEMPERATURES

Material	Target Pre-heat temperature °C	Max Inter-pass temperature °C
Adapter plates	160 - 190	230
Steel plate (ASTM A514 Steels)	As per the manufacturer's recommendation	As per the manufacturer's recommendation

Table 1 Preheat, Inter-pass temperatures

Refer to Weld Procedure PWP0001 for more details.

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4.0. PROCEDURE FOR WELDING QUAD ADAPTER PLATE OR ADAPTER PLATE ON FLAT SURFACE



Position bucket so that the bottom of the bucket is pointing in an upwards direction.

Pre-heat areas to be gouged to target temperature (refer to Table 1) ensuring not to exceed the max interpass temperature (refer to Table 1). Parts to be removed include wear strips on the heel of the bucket and weld-on heel shrouds. Only remove as much of the wear strip as required for installation of adapter plate. Ensure surface is thoroughly cleaned after gouging to allow for a smooth surface during welding of adapter plate.

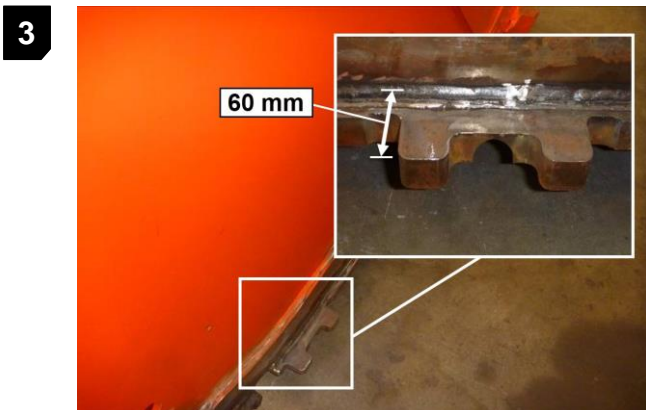


Gouge out all parts including weld-on heel shrouds and wear strips so that only bottom plate remains. Ensure that there is enough room for Quad adapter plates.

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Place adapter plate into the former position of side wear strip. Ensure that adapter protrusions are 60mm from side of the bucket unless otherwise not mentioned in the drawing.



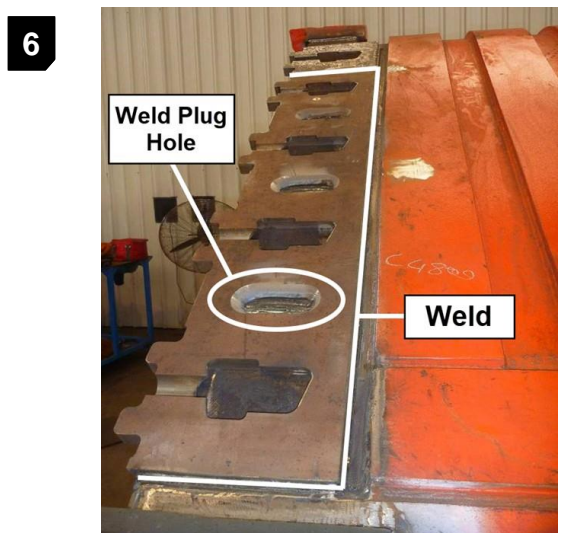
Preheat the adapters and bucket floor to the target weld temperature (refer to Table 1) before tack welding.
Preheat should be apply to at least 75mm (3") either side of the weld joint or the area being welded.

Tack on adapter plate into place on bucket surface where the wear strip is normally situated.

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If the temperature falls below the minimum weld temperature (refer to Table 1), reheat the weld area to the target temperature (refer to Table 1) before continuing welding the adapter plate.

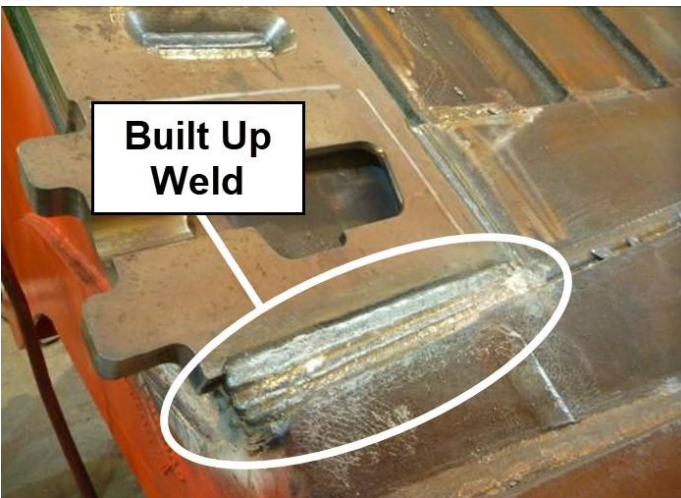


Weld in all plug holes. Then apply a root run around the edges of adapter as shown to the right. After root run ensure weld is cleaned by grinding. Fill out weld prep with as many runs as required.

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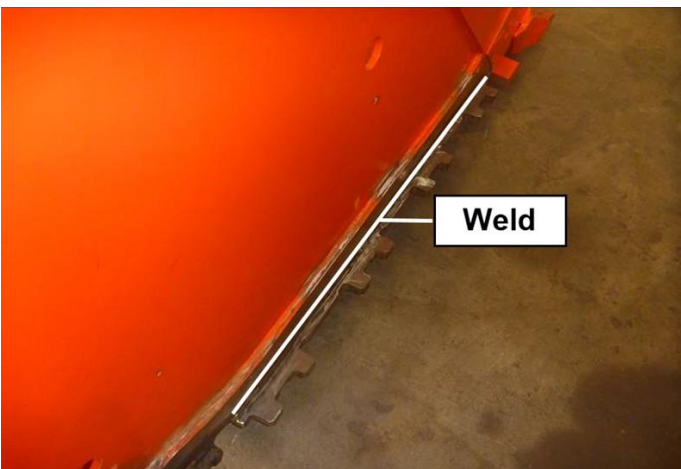
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If height of neighboring surface is higher than weld, build up the weld so that adapter is flush with height of neighboring surface. Example shown above.

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Turn bucket over so it is in correct sitting position. Apply weld to top of adapter plate.

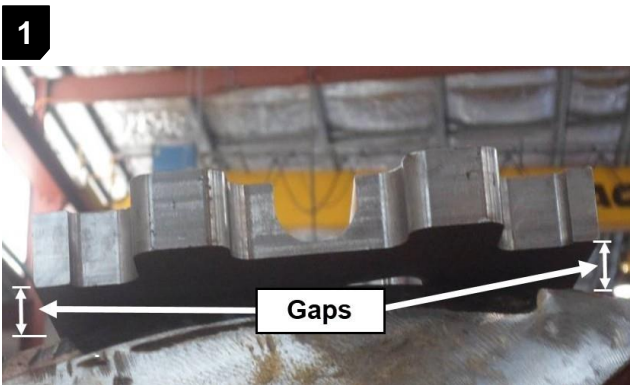
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PRODUCT WELDING PROCEDURE

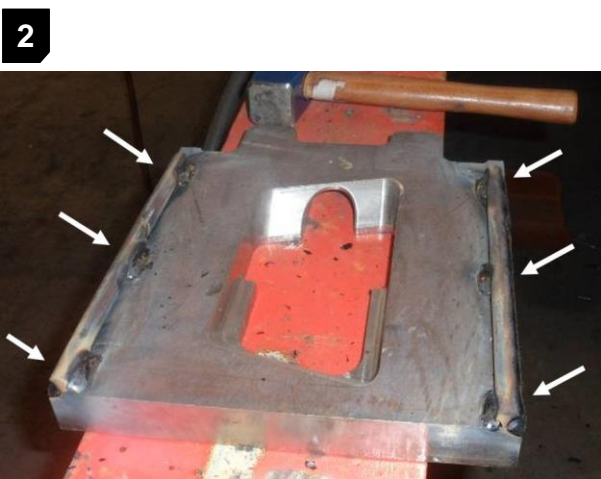
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5.0. PROCEDURE FOR WELDING ADAPTER PLATE ON CURVED SURFACE

The procedure for welding on single adapter is the same as the quad adapter plate except when applying single adapter on radius.



Place single adapter on radius where it is to be welded and take note of the gaps on the sides.



Tack on an appropriately sized round bar to the adapter so that it can sit on the radius of the bucket without rocking.

Example shown above uses 10mm round bar.

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Preheat the adapters and bucket to the target temperature (refer to Table 1) before tack welding. Preheat should be apply to at least 75mm (3") either side of the weld joint or the area being welded.

After tacking on the adapter to the bucket, preheat the areas to be welded to target temperature (refer to Table 1) ensuring not to exceed the maximum weld temperature (refer to Table 1).

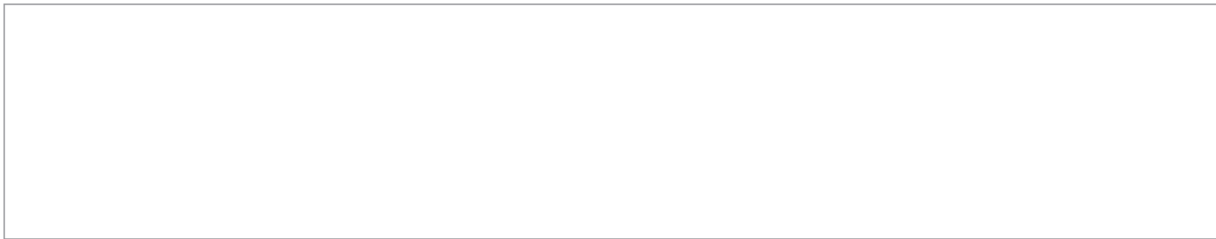
Apply root run to the perimeters of the single adapter as per Item 6 of quad adapter plate procedure. After root run, ensure weld is cleaned by grinding. Fill out weld prep with as many runs as required. Apply top weld after turning the bucket upside down as per Item 8 of quad adapter plate procedure.



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6.0. REVISION HISTORY

Rev	Changes	Revised By	Checked By	Approved By	Date
1	-	Wei Ong	-	-	-
2	-	Wei Ong	-	Marten Karlsson	5/06/2013
3	Update part numbers on page 1 Added weld temperature Table 1.	Eva Hung	-	Alberto Martinez	23/10/2023
4	Section#1&2 duplicate information removed	R. Lauchlan	J.Jose	M. Javadi	23/11/2023