WELD-ON HEEL SHROUD

PRODUCT WELDING PROCEDURE

SHARK™ GROUND ENGAGING TOOLS

CONTENTS

1.0 SCOPE:

This procedure/specification is intended to provide background information and supplementary instructions to subcontractors/welders who are assembling and welding all SANDVIK SS2000 and SS2300 Weld-On Heel Shroud products.

Please note that although this procedure is written and illustrated using a Half Arrow tooth bucket, the basic procedure can and is recommended to be utilized when welding Heel Shrouds to any bucket side wall surface.

2.0 WELDING SAFETY

Refer to PWP0001 for details .

3.0 WELDING PROCESS:

Refer to PWP0001 for details.

4.0 ELECTRICAL PARAMETERS:

Refer to PWP0001 for details.

5.0 WELDING CONSUMABLES:

Refer to PWP0001 for details. Recommended consumables are as in Table 2 of PWP0001.

6.0 WELDING PREPARATION:

Refer to PWP0001 for details.

7.0 PREHEAT AND INTERPASS TEMPERATURES:

Material	Target Pre-heat Temperature ºC	Max Inter-pass temperature ºC
Sandvik weld-on heel shroud (WHS) G.E.T. products.	160-190	230
Lip plates/ Bucket (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 preheat details.

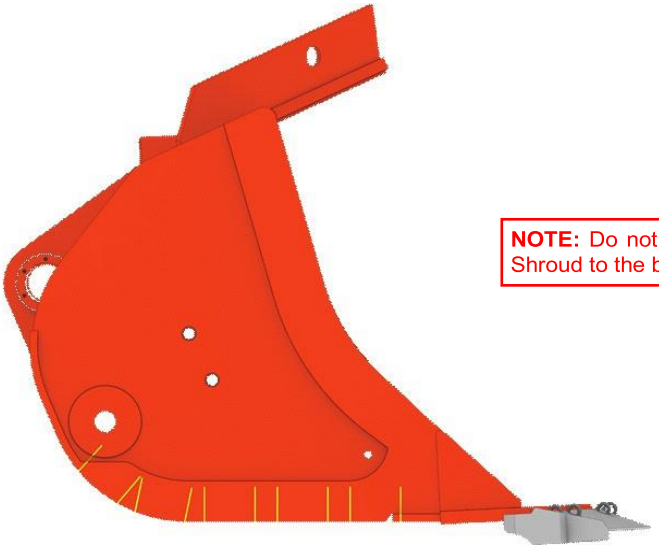
8.0 AVOIDING HACC AND STRESS CRACKING:

Refer to PWP0001 for details.

9.0 WELDING PREPARATION:

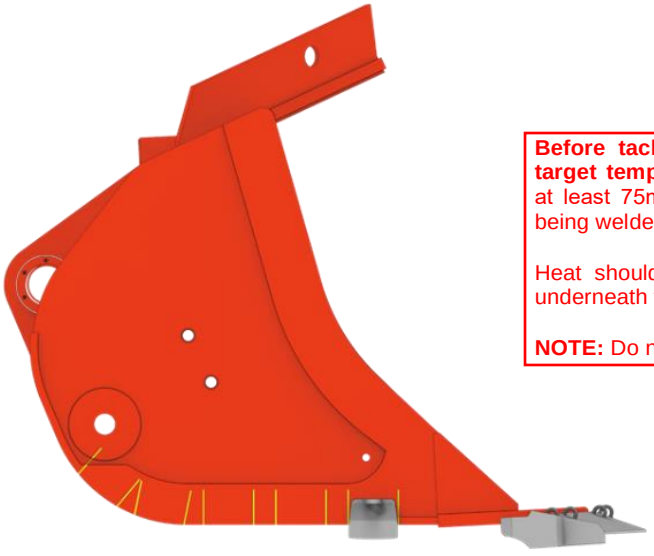
Step 1 : Remove paint/old heel shroud from the bucket. Using a grinder remove any corrosion, paint or other impurities from the areas to be welded, bucket and Shark Heel Shroud.

Step 2 : Mark placement of new heel shrouds.



NOTE: Do not weld the Heel Shroud to the bucket.

Step 3 : Lift Heel Shroud in place and tack weld onto the bucket (ensure safe lifting).

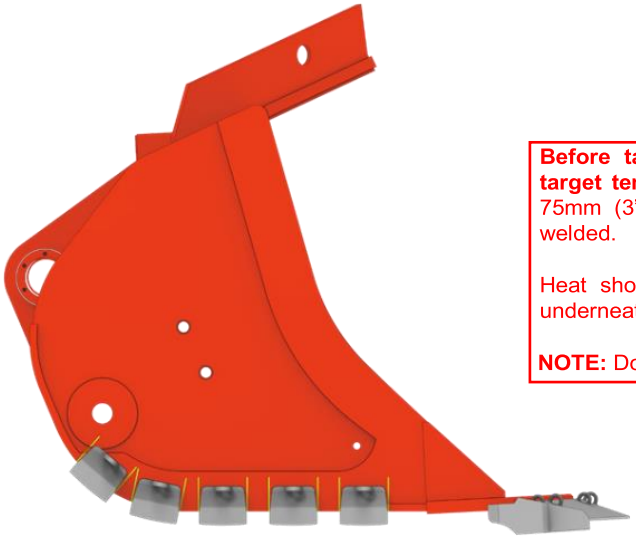


Before tack welding, preheat the lip and casting to a target temperature (refer to Section #7 Table 1) measured at least 75mm (3") either side of the weld joint or the area being welded.

Heat should be applied to the Half Arrow segments from underneath the lip.

NOTE: Do not weld the Heel Shroud to the bucket.

Step 4 : Repeat procedure for rest of the Heel Shroud fitment, on both sides of the bucket.



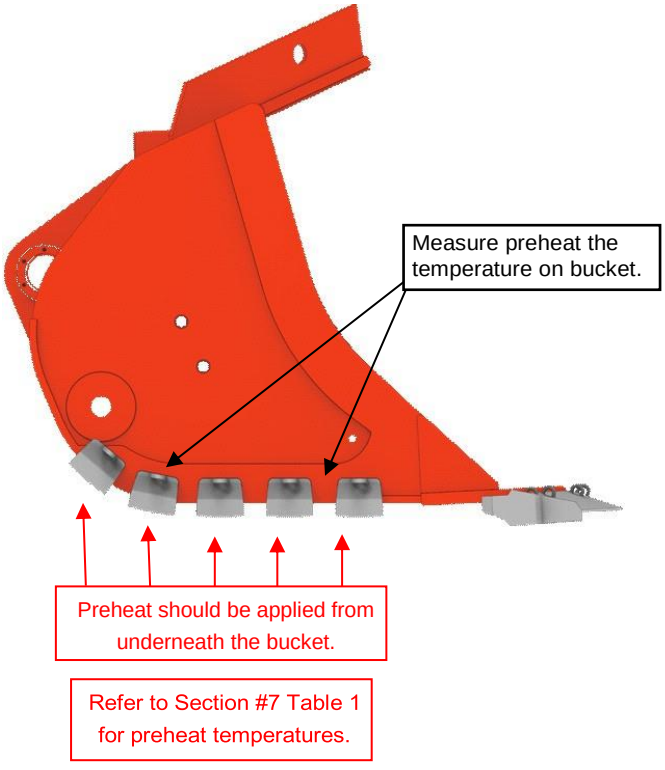
Before tack welding, preheat the lip and casting to a target temperature (refer to Section 7.0) measured at least 75mm (3") either side of the weld joint or the area being welded.

Heat should be applied to the Half Arrow segments from underneath the lip.

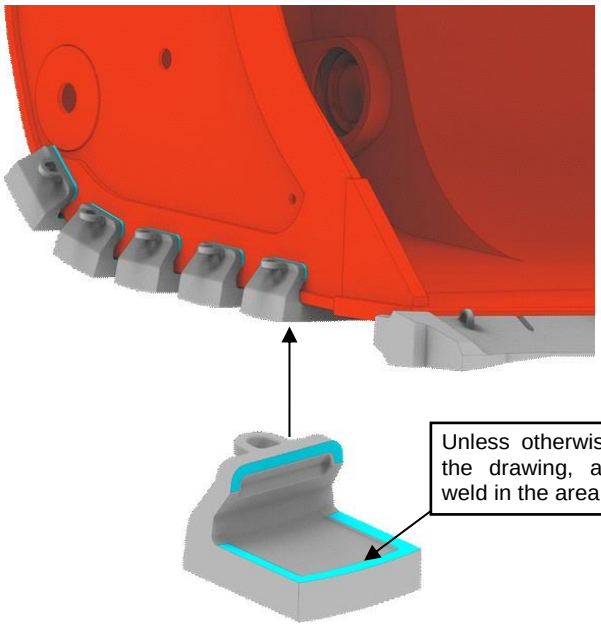
NOTE: Do not weld the Heel Shroud to the bucket.

Step 5 : If temperature is below minimum preheat temperature, reheat the weld area to the target preheat temperature.

Heat should be applied to the Heel Shroud segments from underneath the bucket. This is indicated by the areas in red in the image below. The metal temperature reading should be taken on the top surface of the bucket as indicated.

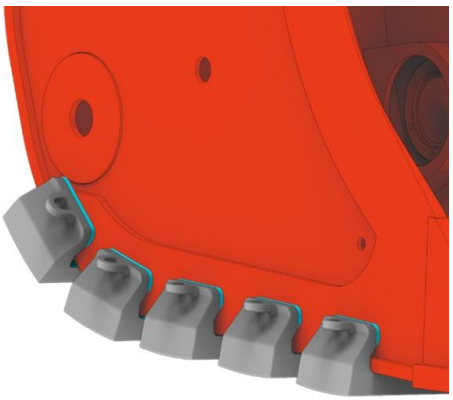


Step 6 : Once the bucket is heated to the required temperature, complete a root run on both sides of the bucket.



NOTE: Ensure the bucket temperature stays with target weld temperatures during welding (refer to Section 7.0). If this does occur reheat as per procedure.

Step 7 : Fill out weld prep on both side of the bucket with as many runs as required.



Step 8 : Refer to PWP0001 for the post weld cooling requirements.

NOTE: Ensure the bucket temperature stays with target weld temperatures during welding (refer to Section #7 Table 1). If this does occur reheat as per procedure.

10.0 REVISION HISTORY:

Rev #	Notes	Prepared By	Checked By	Approved By	Date
0		J. Czekai			20/07/2012
1		J. Czekai			30/01/2013
2	Preheat temperature requirement changed to 160-190 °C & Maximum inter pass temperature added as 230°C. Template updated to reflect similar structure as PWP0016.	J. Jose			01/06/2023
3	Preheat table added to section 7.0. Duplicate information deleted and for content cross referenced to PWP0001.	R. Lauchlan	J. Jose	M. Javadi	23/11/2023