
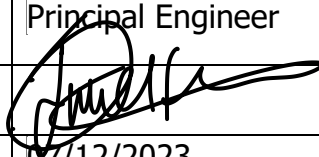


ENGINEERING: ENGINEERING SYSTEMS ENABLEMENT QUALITY MANAGEMENT SYSTEM

CUTTING AND FETTLING OF FRONT STOP CASTINGS FOR KOEDOESPOORT FOUNDRY

TECHNICAL SPECIFICATION

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Version number	00
Compiler name	Engineer
Signature	
Date	07/12/2023
Approver name	Principal Engineer
Signature	
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1 DOCUMENT VERSION

This specification supersedes all previous specifications for the cutting and fettling of Front stop castings for the Koedoespoort (KDS) Foundry.

2 PURPOSE

The purpose of this document is to provide the potential supplier with the minimum technical requirements for the cutting and fettling of Front stop castings for the KDS Foundry. Cutting and fettling of Front stop castings is a KDS foundry process that is conducted for the purpose of removal of unwanted excess metal and any unnecessary metal projections on the surface of a casting.

3 SCOPE OF SPECIFICATION

This specification applies to the cutting and fettling of different types of Front stop castings produced at KDS Foundry. The cut and fettle do not include the welding repair of the components. Weld repair by the contractor is prohibited unless granted with written permission to do so by Transnet Engineering's Materials and Manufacturing Principal Engineer

Table 1: Types of Front stop castings produced at the KDS Foundry.

No	Component Description	Material grade	Drawing no	Item no
1	Front stop Big L/H	M201 AAR Grade B	CME68_29812_180	068007164
2	Front stop Big R/H	M201 AAR Grade B	CME68_29811_180	068007176
3	Front stop Small L/H	M201 AAR Grade B	CME68_29809_180	068007139
4	Front stop Small R/H	M201 AAR Grade B	CME68_29810_180	068007140

4 REFERENCE DOCUMENTATION

Technical drawings of the Front stop castings, referenced in Table 1 above.

5 DEFINITIONS AND ABBREVIATIONS

Cutting refers to the removal of risers, gating system, vents, and sprue to remain with the cast component.

Fettling refers to the trimming or clean the rough edges of the excess cast metals within geometrical requirements.]

6 TECHNICAL REQUIREMENTS

The supplier shall receive the castings as sets of front-stop castings (refer to Figure 1-2 on Appendix 1).

6.1 Front stop castings cutting:

Cutting off larger components into smaller parts (i.e., set of 2 Front stop castings into individuals).

Removal of unnecessary and unwanted material from a casting.

Client requirements:

The supplier shall be required to cut off the runners, risers, gating system, metal flow offs possible flesh, and all the other excess material on the Front stop castings (see appendix 2).

Proposed equipment:

Lancing tube, Plasma cutter, cutting torch.

6.2 Front stop castings grinding:

Removal of undesired material from the surface of a casting through abrasive action.

Client requirements:

The supplier shall be required to grind off the excess material projections mainly on the sections previously cut. This should be done to a required level as per the prescribed component drawing.

The supplier must ensure that castings are not overly ground (see Appendix 3).

Proposed equipment:

Grinding big wheel, cup stone grinder, surface and baby grinder, small and big angle grinder, and pencil grinders.

NB: Any work done on the casting must be conducted as prescribed and depicted in this technical specification and respective drawing, this is to ensure the maintenance of castings overall quality, structural and dimensional accuracy. Suppliers are prohibited from performing any form of welding on the castings. Damaged castings will be rejected pending an NCR and cost of the component will be

recovered from the service provider. The agreement of penalties between parties will be reached during contractual stage.

6.4 Process requirements

- Visual inspection prior and post processes.
- Sort and categorize components.
- Use of certified and latest issued drawings.
- Use calibrated machinery and equipment.
- Use calibrated and certified gauges.
- Maintain Records of all calibrations.
- Typical Process flow, shown in Appendices. |

7 QUANTITY

|KDS Foundry produces an average of 500 Front stop castings per month depending on the demand, however quantities of Front stop castings that need to be cut and fettled shall be indicated as and when required. |

8 POST PURCHASE SUPPORT

- |Availability of supplier and his premises for any issues arising.
- Weigh or count, record and return the scrap resulting from the cut and fettling process. The returning consignment i.e. castings and scrap must not be less than 15 percent of the collected weight. |

9 DOCUMENTATION REQUIRED

9.1 Procurement stage

- |First article inspection components. |

9.2 On delivery

- |Job completion and quality check sheet accompanied by a delivery note. |

10 DELIVERY

Upon delivery, the castings shall;

|10.1 be stacked and packed in an orderly sequence.

10.2 be stored and transported in a moisture free and dry environment.

10.3 Branded with an identification logo on the casting. (i.e., spray painted with supplier's logo).

10.4 Front stop off cut scrap including risers, runners and gating system must be returned to the KDS Foundry. |

Delivery address:

|Transnet Engineering: ESE Foundry office building A16

Mop Road

Opposite Foundry business

Koedoespoort

Pretoria

0186 |

11 TIME FRAME

|Expected lead times as stipulated on the RFQ or tender document.

Supplier is expected to collect castings for cut and fettle on terms indicated on the RFQ or tender document. |

12 ACCEPTANCE CRITERIA

It is the responsibility of the supplier to ensure the understanding of the requirements/technical requirements of a required product or service. It is also the responsibility of the supplier to enquire and seek clarity on areas that may be unclear.

Upon the delivery of a product/service, the product/service shall be evaluated for conformance to specification requirements, using the acceptance criteria stipulated in the tender document.

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13. Appendices

Appendix 1: As received Front stop.



Figure 1: Bottom view of typical Front stop casting set, as received by supplier.



Figure 2: Top view of typical Front stop casting set, as received by supplier.

Appendix 2: Cutting



Figure 3: Illustrates relevant sections to be cut off. (NB: Removal of flesh is necessary)

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Appendix 3: Post grinding and dressing



Figure 4: Illustrates the expected front stop outlook post grinding and dressing.



Figure 5: Illustrates the expected outlook for front stop castings post grinding and dressing.