

General Information

*Mandatory

*Not mandatory

EIA Reference	
Construction or Modification Date	N/A
EIA Reference Number	N/A
Competent Authority	
Has an EA been issued, and if no, please explain*	No, not yet. The plant requires NEMA authorisation. An application for NEMA authorisation is currently underway.
Project Description*	Application for variation of an existing Atmospheric Emissions Licence: GeT Alloys Aluminium and copper alloy production foundry, Parow.

Application information	
Current AEL Number	N/A
Application Reason*	Variation application
Is the application for/on behalf of a municipality?*	
Yes	No
Is the application for/on behalf of a provincial organ of state, which has been delegated the power to perform the licensing authority function in terms of subsection (2) of the Air Quality Act by the metropolitan or district municipality?*	
Yes	No
Does the proposed listed activity fall within the boundaries of more than one province?*	
Yes	No
Does the application relate to an activity that forms part of a matter declared as a national priority in terms of Cabinet decision and notice referred to in section 24C(2B) of the Environmental Management Act, 1998, as amended by the National Environmental Management Laws Second Amendment, 2013*	
Yes	No
Does the application relate to activities listed in terms of section 24(2) of the National Environmental Management Act, or in terms of section 19(1) of the National of the National Environmental Management: Waste Act, 2008, or the Minister has been identified as the competent authority?*	
Yes	No
Does the application relate to a prospecting, mining, exploration or production activity as contemplated in Section 36(5)(e) of the Air Quality Act*	
Yes	No

Licensing Authority*	City of Cape Town Metropolitan Municipality
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Facility Information	
Facility/Property*	GeT Alloys Aluminium and copper alloy production foundry.
Postal Address	13 Glenhurst Street, Parow, Cape Town, 7500
District Municipality	City of Cape Town
Local Municipality	City of Cape Town
Province	Western Cape
Postal Code	
Facility/Property Address	13 Glenhurst Street, Parow, Cape Town, 7500
Latitude	-33.919478°
Longitude	18.585904°
Phone Number*	021 879 3367
Does your facility have less than 100 employees?*	Yes
Does the facility have a complaint's register?	Yes
The Standard Industrial Classification SIC (a system for classifying industries by a four-digit code).	2420

Enterprise Name	Get Alloys (Pty) Ltd
Trading As	Get Alloys
Type of Enterprise, e.g. Company/Close Corporation/Trust, etc	Company
Company/Close Corporation/Trust Registration Number (Registration Numbers if Joint Venture)	2021 / 653290 / 07
VAT registration number	Ask client
Business partner number	Ask client
Registered Address	13 Glenhurst Street, Beaconvale, Parow, Cape Town, 7475
Postal Address	13 Glenhurst Street, Beaconvale, Parow, Cape Town, 7475
Telephone Number (General)	021 932 7941
Fax Number (General)	
Industry Type/Nature of Trade	Aluminum foundries
Land Use Zoning as per Town Planning Scheme	Industrial 2
Land Use Rights if outside Town Planning Scheme	N/A
Responsible Person Name or Emission Control Officer (where appointed)	Wikus Du Plessis
Telephone Number	021 879 3367 ext 2005
Cell Phone Number	0829079407
Fax Number	
E-mail Address	wikus@getalloys.co.za
After Hours Contact Details	0829079407

Location & extent of plant	
Extent (km ²)	0.39 km ²
Elevation above mean sea level (m)	37 m
Designated Priority Area (Highveld Priority Area	

etc.)	
Description of surrounding land use within a 5 km radius, specifically noting the names and of residential and commercial areas in relation to the site of the works:	
<p>The foundry is located at 13 Glenhurst Street, Beaconvale, Parow, Cape Town. The site and its surrounds are zoned as Industrial Zone 2 for general industrial purposes. There are several national and regional roadways, industrial, commercial, and residential areas, within 5 km of the property.</p> <p>The property is bordered by other industries and commercial activities including but not limited to, drum reconditioning, laundromats, auto and auto electrical spares and workshops, concrete works, furniture manufacture, hardware supplies stores, home décor stores etc. Industrial and commercial areas further afield include Elsies Rivier Industrial to the north-west (~850 m), Parow Industrial to the south-east (~2.4 km), and Epping to the west-southwest (~2 km).</p> <p>The N1, passes ~3.8 km to the north of the property and the N2 ~5k to the south. The R102, Voortrekker Road, passes ~1.4 km to the north. Other major roadways nearby include the M12 (Jan van Riebeeck Dr), and M16 (Avonwood Ave). Transnet's operations in Parow are ~3.5 km to the east and the Cape Town International Airport (CTIA) ~4 km to the south.</p> <p>There are several residential suburbs of Cape Town within 5 km of the property. The closest include Parrow Valley to the east, Ravensmead to the east-southeast, Florida to the south-east, Cravenby and Connaught to the south, Avonwood and Norwood to the south-west, Avon to the east, and Parow Central to the north. All these areas have residences within 1 to 2 km from the property.</p>	

Nature of Process
Overview Facility-wide Process Description
<p>Scrap aluminium (2 100 tonnes per month) and copper (300 tonnes per month) arrives on site via truck. Aluminium scrap arrives as bales, briquettes, hammered, shredded, or loose, and may contain plastic, oils, grease, dust, and/or laminates. Copper scrap is from industrial and domestic used.</p> <p>Aluminium scrap is fed to one of four fuel oil fired melting furnaces (one 5-tonne and three 8-tonne furnaces) in batches using charging machines. Molten aluminium is tapped from the furnaces into one of three fuel oil fired 10-tonne holding furnaces. Each of the three 8-tonne melting furnaces operates in combination with a 10-tonne holding furnace from which casting takes place. Alloy is cast into moulds via one of three casting machines and cooled to form ingots. The plant will produce 1 750 tonnes of aluminium alloy per month.</p> <p>One 2.5-tonne or two 1-tonne box type furnaces will be used to produce copper alloy. The fuel oil fired furnace(s) is charged with copper scrap in a batch process. Copper alloy is tapped and cast into moulds on a carousel system and allowed to cool to form copper ingots. The plant will produce 250 tonnes of copper alloy per month.</p> <p>Both aluminium and copper alloy ingots are packed and dispatched via truck.</p> <p>All furnaces are fitted with fume extraction, both from the furnaces itself and via hoods to capture fumes during charging and/or tapping. Fugitive emissions are furthermore be extracted from the building roof at its apex. All extracted fumes/air (30 000 Nm³/h) are mixed to lower the temperature of the off gas before it passes through a bagfilter to reduce the PM load. It is then vented to atmosphere 30 m above ground level. Bagfilter dust is bagged and disposed of by a waste disposal contractor.</p> <p>Dross (20 tonnes per day, ~610 tonnes per month) from the aluminium furnaces is tapped or skimmed from the molten material surface and cooled in a covered cooling bay in 2 to 3 tonne batches before treatment at the dross recovery plant. Aluminium is recovered from dross by a cold process at a 10% to 15% recovery rate. Cooled dross is passed through a vibratory screen, and, depending on size, passed through a ball mill or pulveriser. Aluminium is separated from other metals in the dross with a magnetic drum. Recovered aluminium is returned to the melting process. Materials remaining after the recovery of aluminium (approximately 548 tonnes per month) is bagged and disposed of by a waste disposal contractor. The entire dross recovery process takes place within an enclosed building fitted with dust extraction. Extracted dust laden air will be ducted and passed through the foundry bagfilter to reduce the PM load before being vented to atmosphere via the foundry stack. Bagfilter dust will be bagged disposed of by a waste disposal contractor.</p>

The plant operates 24 hours per day, 365 days per year.			
Scheduled Processes	N/A	Yes	No
APPA Registration Certificate Number	N/A		
Date of Registration Certificate	N/A		
Scheduled Process number	N/A		
Process Description	N/A		

Facility Wide Listed Activities with Regulatory Applicability	
SEC 21 Subcategory (e.g. SA1001)	4.2 (Combustion installations)
Description	Combustion installations not used primarily for steam raising and electricity generation (except drying).
Application	All combustion installations (except test or experimental)
SEC 21 Subcategory (e.g. SA1001)	4.4 (Secondary aluminium production)
Description	Secondary aluminium production and alloying through the application of heat (excluding metal recovery).
Application	All installations

Facility Wide Air Pollutant Emissions						
SEC 21 Subcategory	Pollutant Name	Minimum Emissions Standards (mg/Nm ³) (Existing)	Minimum Emissions Standards (mg/Nm ³) (New)	Potential to Emit Value (mg/Nm ³)	Past Max Actual (Annual) (mg/Nm ³)	Future Minimum Emissions Standards (mg/Nm ³)
PM		100	50		Unknown at this stage	
SO2		1000	500			
NOx expressed as NO2		1200	500			

Facility Wide Air Pollutant Emissions						
SEC 21 Subcategory	Pollutant Name	Minimum Emissions Standards (mg/Nm ³) (Existing)	Minimum Emissions Standards (mg/Nm ³) (New)	Potential to Emit Value (mg/Nm ³)	Past Max Actual (Annual) (mg/Nm ³)	Future Minimum Emissions Standards (mg/Nm ³)
PM			30		Unknown at this stage	
F as HF			1			
TVOC			40			
NH ₃			30			

Contact Information

First Name*	Wikus
Last Name*	Du Plessis
Job Title	ACO
Responsibility* (Owner/Consultant etc.)	Emission Inventory Primary
E-mail*	wikus@getalloys.co.za
Phone Number*	021 879 3367 ext 2005
After hours contact phone number	082 907 9407
Fax	
Address	13 Glenhurst Street Beaconvale Parow
Province	Western Cape
District Municipality	CCT
Local Municipality	CCT
Postal Code	7500

Raw Materials & Production

C1. Raw Materials used (use permitted rate as design rate for licence renewals)							
Material type	Max Permitted Consumption Rate	Unit	Design Consumption Rate	Unit	Actual Consumption Rate	Unit	
Aluminium scrap	N/A		2 100	Tons/year	N/A	Tons/year	
Copper scrap	N/A		300	Tons/year	N/A	Tons/year	

C2. Production rates						
Production name	Production Capacity Permitted	Unit	Design Production Capacity	Unit	Actual Production Capacity	Unit
Aluminium alloy	N/A		1 750	Tons/year	N/A	Tons/year
Copper alloy	N/A		250	Tons/year	N/A	Tons/year

C3. By-product rates						
Product Name	Production Capacity Permitted	Unit	Design Production capacity	Unit	Actual Production Capacity	Unit
Dross	N/A		548	Tons/month	N/A	Tons/month

C4. Materials Used in Energy Sources								
Material	Max Permitted Consumption rate	Unit	Design Consumption rate	Unit	Actual Consumption rate	Unit	Sulphur %	Ash %
Fuel Oil	N/A		2 400	Litres/day	N/A	Litres/day	1%	N/A

Emission Units

Emission Unit Detail Information	
New Emission Unit?*	Yes
Emission Unit Identifier*	EU0001
Emission Unit Name*	Scrap pre-treatment
Emission Unit Type	Other fugitive
Installation Date	N/A
Description*	Manual cleaning, sizing, and sorting of aluminium and copper scrap metal

Batch/Continuous specification	Batch		
Operating days per year	365		
Area/Line Source? Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID		Description
Associated control device	ID		Description
Reporting Group	RG0001		
New Emission Unit?*	No		
Emission Unit Identifier*	EU0002		
Emission Unit Name*	5-tonne furnace (F03) - Existing		
Emission Unit Type	Furnace		
Installation Date			
Description*	Melting of aluminium scrap		
Batch/Continuous specification	Batch		
Area/Line Source? Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID		Description
Associated control device	ID	None	Description
Reporting Group	RG0001		
New Emission Unit?*	No		
Emission Unit Identifier*	EU0003		
Emission Unit Name*	8-tonne reverberatory furnace (F02)		
Emission Unit Type	Furnace		
Installation Date			
Description*	Melting of aluminium scrap		
Batch/Continuous specification	Batch		
Area/Line Source? Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID		Description
Associated control device	ID	None	Description
Reporting Group	RG0001		

New Emission Unit?*	Yes		
Emission Unit Identifier*	EU0004		
Emission Unit Name*	8-tonne reverberatory furnace (F04)		
Emission Unit Type	Furnace		
Installation Date	N/A		
Description*	Melting of aluminium scrap		
Batch/Continuous specification	Batch		
Area/Line Source? Yes	Height	-	
	Width	-	

	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID		Description
Associated control device	ID	None	Description
Reporting Group	RG0001		
New Emission Unit?*	Yes		
Emission Unit Identifier*	EU0005		
Emission Unit Name*	8-tonne reverberatory furnace (F04)		
Emission Unit Type	Furnace		
Installation Date			
Description*	Melting of aluminium scrap		
Batch/Continuous specification	Batch		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID		Description
Associated control device	ID		Description
Reporting Group	RG0001		
New Emission Unit?*	Yes		
Emission Unit Identifier*	EU0006		
Emission Unit Name*	10-tonne holding furnace (F01H)		
Emission Unit Type	Furnace		
Installation Date	N/A		
Description*	Holding of molten alloy before casting		
Batch/Continuous specification	Batch		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID		Description
Associated control device	ID		Description
Reporting Group	RG0001		
New Emission Unit?*	Yes		
Emission Unit Identifier*	EU0007		
Emission Unit Name*	10-tonne holding furnace (F02H)		
Emission Unit Type	Furnace		
Installation Date	N/A		
Description*	Holding of molten alloy before casting		
Batch/Continuous specification	Batch		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID		Description
Associated control device	ID		Description
Reporting Group	RG0001		
New Emission Unit?*	Yes		

Emission Unit Identifier*	EU0008		
Emission Unit Name*	10-tonne holding furnace (F04H)		
Emission Unit Type	Furnace		
Installation Date	N/A		
Description*	Holding of molten alloy before casting		
Batch/Continuous specification	Batch		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID		Description
Associated control device	ID		Description
Reporting Group	RG0001		
New Emission Unit?*	Yes		
Emission Unit Identifier*	EU0009		
Emission Unit Name*	2.5 tonne (CF01) OR two 1-tonne box-type melting furnace (CF02, CF03)		
Emission Unit Type	Furnace		
Installation Date	N/A		
Description*	Melting of copper scrap		
Batch/Continuous specification	Batch		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID		Description
Associated control device	ID		Description
Reporting Group	RG0001		
New Emission Unit?*	Yes		
Emission Unit Identifier*	EU0010		
Emission Unit Name*	Conveyor mould casting machine (CM01)		
Emission Unit Type	Other fugitive		
Installation Date	N/A		
Description*	Casting and cooling of aluminium alloy ingots		
Batch/Continuous specification	Batch		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID		Description
Associated control device	ID		Description
Reporting Group	RG0001		
New Emission Unit?*	Yes		
Emission Unit Identifier*	EU00011		
Emission Unit Name*	Conveyor mould casting machine (CM02)		
Emission Unit Type	Other fugitive		
Installation Date	N/A		
Description*	Casting and cooling of aluminium alloy ingots		
Batch/Continuous specification	Batch		

Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID	Description	
Associated control device	ID	Description	
Reporting Group	RG0001		
New Emission Unit?*	Yes		
Emission Unit Identifier*	EU00012		
Emission Unit Name*	Conveyor mould casting machine (CM03)		
Emission Unit Type	Other fugitive		
Installation Date	N/A		
Description*	Casting and cooling of aluminium alloy ingots		
Batch/Continuous specification	Batch		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID	Description	
Associated control device	ID	Description	
Reporting Group	RG0001		
New Emission Unit?*	Yes		
Emission Unit Identifier*	EU00013		
Emission Unit Name*	Mould casting carousel (CM04)		
Emission Unit Type	Other fugitive		
Installation Date	N/A		
Description*	Packing and loading of aluminium and copper ingots for dispatch		
Batch/Continuous specification	Batch		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID	Description	
Associated control device	ID	Description	
Reporting Group	RG0001		
New Emission Unit?*	No		
Emission Unit Identifier*	EU00014		
Emission Unit Name*	Product handling and dispatch		
Emission Unit Type	Other fugitive		
Installation Date	N/A		
Description*	Packing and loading of aluminium and copper ingots for dispatch		
Batch/Continuous specification	Batch		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	

Associated stack	ID		Description	
Associated control device	ID		Description	
Reporting Group	RG0001			
New Emission Unit?*	No			
Emission Unit Identifier*	EU00015			
Emission Unit Name*	Dross cooling bay			
Emission Unit Type	Other fugitive			
Installation Date	N/A			
Description*	Screening of cooled dross into various size fractions			
Batch/Continuous specification	Batch			
Area/Line Source? – If yes, then: Yes	Height	-		
	Width	-		
	Length	-		
	Operation time (hours/day)	24		
Associated stack	ID		Description	
Associated control device	ID		Description	
Reporting Group	RG0001			
New Emission Unit?*	No			
Emission Unit Identifier*	EU00016			
Emission Unit Name*	Vibrating screen			
Emission Unit Type	Other fugitive			
Installation Date	N/A			
Description*	Screening of cooled dross into various size fractions			
Batch/Continuous specification	Batch			
Area/Line Source? – If yes, then: Yes	Height	-		
	Width	-		
	Length	-		
	Operation time (hours/day)	24		
Associated stack	ID		Description	
Associated control device	ID		Description	
Reporting Group	RG0001			
New Emission Unit?*	No			
Emission Unit Identifier*	EU00017			
Emission Unit Name*	Ball mill			
Emission Unit Type	Other fugitive			
Installation Date	N/A			
Description*	Sizing of dross to recover aluminium			
Batch/Continuous specification	Batch			
Area/Line Source? – If yes, then: Yes	Height	-		
	Width	-		
	Length	-		
	Operation time (hours/day)	24		
Associated stack	ID		Description	
Associated control device	ID		Description	
Reporting Group	RG0001			
New Emission Unit?*	No			
Emission Unit Identifier*	EU00018			
Emission Unit Name*	Pulveriser			
Emission Unit Type	Other fugitive			

Installation Date	N/A		
Description*	Sizing of dross to recover aluminium		
Batch/Continuous specification	Batch		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID	Description	
Associated control device	ID	Description	
Reporting Group	RG0001		
New Emission Unit?*	No		
Emission Unit Identifier*	EU00019		
Emission Unit Name*	Magnetic drum separator		
Emission Unit Type	Other fugitive		
Installation Date	N/A		
Description*	Separating aluminium from other metalics		
Batch/Continuous specification	Batch		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID	Description	
Associated control device	ID	Description	
Reporting Group	RG0001		
New Emission Unit?*	No		
Emission Unit Identifier*	EU00020		
Emission Unit Name*	Waste handling and disposal		
Emission Unit Type	Other fugitive		
Installation Date	N/A		
Description*	Bagging and loading of waste and baghouse dust for disposal by contractor		
Batch/Continuous specification	Routine but intermittent		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	
	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID	Description	
Associated control device	ID	Description	
Reporting Group	RG0001		
New Emission Unit?*	No		
Emission Unit Identifier*	EU00021		
Emission Unit Name*	Dross Recovery Building		
Emission Unit Type	Other fugitive		
Installation Date	N/A		
Description*	Fugitive dust from cold dross sizing, screening, and handling.		
Batch/Continuous specification	Routine but intermittent		
Area/Line Source? – If yes, then: Yes	Height	-	
	Width	-	

	Length	-	
	Operation time (hours/day)	24	
Associated stack	ID		Description
Associated control device	ID		Description
Reporting Group	RG0001		

Control Device

Control Device Detail Information				
Device Type*	Baghouse			
Control Unit ID* (CD001)	CD001			
Control Unit Name*	Main foundry baghouse			
Description*	Main foundry baghouse			
Model Number	N/A			
Date Manufactured	N/A			
Commission date	N/A			
Date of significant modification or upgrade	N/A			
Design Capacity	N/A			
Min. Control Efficiency (%)	N/A			
Min. Utilization (%)	N/A			
Associated emissions unit	ID	EU0001 to EU0020, EU00015 excluded	Description	Main foundry
Associated stack	ID	SV0001	Description	Main foundry baghouse stack
Controlled Pollutant List				
Substance name	Control Efficiency* %			
Particulate Matter	100% in the 30 µm size fraction, 99.5% in the 10 µm size fraction, 99% in the 2.5 µm size fraction			

Disposal of Waste and Effluents Arising from Control Device	
Waste/ Effluent Type	Bag filter dust
Hazardous Components Present	Metals
Method of Disposal	Landfill
Comments	

Stack

Stack Detail Information	
Stack ID* (S01)	SV0001
Stack Name*	Main foundry baghouse stack

Stack Orientation* (Conical Cap/Vertical etc.)	To be finalized			
Stack Height* (meter)	30 (to be finalized)			
Stack Diameter* (meter)	1.2 (to be finalized)			
Height above nearby building (meter)	10 (to be finalized)			
Exit Gas Velocity* (meter/second)	12.3 (to be finalized)			
Exit Gas Flow Rate* (cu meter/sex)	13.9(to be finalized)			
Exit Gas Temperature* (Celsius)	100 (to be finalized)			
Latitude Measure*	-26.196627 (to be finalized)			
Longitude Measure*	28.184093 (to be finalized)			
Waste/Effluent type	None			
Hazardous components present	None			
Method of disposal	N/A			
Associated emissions unit	ID	EU0001 to EU0020, EU00015 excluded	Description	Main foundry
Associated control device	ID	CD001	Description	Main foundry baghouse stack

Reporting Group

Reporting Groups		
Reporting Group ID (e.g. RG001)	Reporting Group Description	Associated Emission Units
RG0001	Reporting Group 1 – Main Foundry Building	EU0001 – Scrap pre-treatment
		EU0002 – 5-tonne furnace (F03) - Existing
		EU0003 – 8-tonne reverberatory furnace (F01)
		EU0004 – 8-tonne reverberatory furnace (F02)
		EU0005 – 8-tonne reverberatory furnace (F04)
		EU0006 – 10-tonne holding furnace (F01H)
		EU0007 – 10-tonne holding furnace (F02H)
		EU0008 – 10-tonne holding furnace (F04H)
		EU0009 – 2.5 tonne (CF01) OR two 1-tonne box-type melting furnace (CF02, CF03)

		EU0010 – Conveyor mould casting machine (CM01)
		EU0011 – Conveyor mould casting machine (CM02)
		EU0012 – Conveyor mould casting machine (CM03)
		EU0013 – Mould casting carousel (CM04)
		EU00014 – Product handling and dispatch
		EU00016 – Vibrating screen
		EU00017 – Ball mill
		EU00018 – Pulveriser
		EU00019 – Magnetic drum separator
		EU00020 – Waste handling and disposal
EU00015	EU00015	EU00015 – Dross cooling bay
EU00021	EU00021	EU00021 – Dross Recovery Building

Activity & Emission

Emission Detail for Reporting Groups RG0001	
Pollutant Name	Particulate Matter (PM)
Maximum Release Rate* (mg/Nm ³)	30
Average Period	Daily
Maximum Gas Volumetric Flow (m ³ /hr)	50 074
Maximum Gas Exit Velocity (m/s)	12.3
Emission Hours	24
Basis for Emission Rates	Dispersion modelling based on MES

Emission Detail for Reporting Groups RG0001	
Pollutant Name	Sulphur dioxide (SO ₂)
Maximum Release Rate* (mg/Nm ³)	500

Average Period	Daily
Maximum Gas Volumetric Flow (m ³ /hr)	50 074
Maximum Gas Exit Velocity (m/s)	12.3
Emission Hours	24
Basis for Emission Rates	Dispersion modelling based on MES

Emission Detail for Reporting Groups RG0001	
Pollutant Name	Oxides of nitrogen as nitrogen dioxide (NO ₂)
Maximum Release Rate* (mg/Nm ³)	500
Average Period	Daily
Maximum Gas Volumetric Flow (m ³ /hr)	50 074
Maximum Gas Exit Velocity (m/s)	12.3
Emission Hours	24
Basis for Emission Rates	Dispersion modelling based on MES

Emission Detail for Reporting Groups RG0001	
Pollutant Name	Fluoride as Hydrogen fluoride (F as HF)
Maximum Release Rate* (mg/Nm ³)	1
Average Period	Daily
Maximum Gas Volumetric Flow (m ³ /hr)	50 074
Maximum Gas Exit Velocity (m/s)	12.3
Emission Hours	24
Basis for Emission Rates	Dispersion modelling based on MES

Emission Detail for Reporting Groups RG0001	
Pollutant Name	Total Volatile Organic Compounds (TVOC)
Maximum Release Rate* (mg/Nm ³)	40
Average Period	Daily
Maximum Gas Volumetric Flow (m ³ /hr)	50 074
Maximum Gas Exit Velocity (m/s)	12.3
Emission Hours	24
Basis for Emission Rates	Dispersion modelling based on MES

Emission Detail for Reporting Groups RG0001	
Pollutant Name	Ammonia (NH ₃)
Maximum Release Rate* (mg/Nm ³)	30
Average Period	Daily
Maximum Gas Volumetric Flow (m ³ /hr)	50 074
Maximum Gas Exit Velocity (m/s)	12.3
Emission Hours	24
Basis for Emission Rates	Dispersion modelling based on MES

Emission Detail for Reporting Groups Dross Recovery Building	
Pollutant Name	Particulate Matter (PM ₃₀ /TSP)
Maximum Release Rate* (g/s)	0.121
Average Period	24 hours a day
Maximum Gas Volumetric Flow (m ³ /hr)	-
Maximum Gas Exit Velocity (m/s)	-
Emission Hours	24

Basis for Emission Rates	Dispersion modelling based on MES
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Emission Detail for Reporting Groups Dross Recovery Building	
Pollutant Name	Particulate Matter (PM10)
Maximum Release Rate* (g/s)	0.0268
Average Period	Daily
Maximum Gas Volumetric Flow (m ³ /hr)	-
Maximum Gas Exit Velocity (m/s)	-
Emission Hours	24
Basis for Emission Rates	Dispersion modelling based on MES

Emission Detail for Reporting Groups Dross Recovery Building	
Pollutant Name	Particulate Matter (PM2.5)
Maximum Release Rate* (g/s)	0.00944
Average Period	Daily
Maximum Gas Volumetric Flow (m ³ /hr)	-
Maximum Gas Exit Velocity (m/s)	-
Emission Hours	24
Basis for Emission Rates	Dispersion modelling based on MES

Emission Detail for Reporting Groups Dross Cooling bay	
Pollutant Name	Particulate Matter (PM30/TSP)
Maximum Release Rate* (g/s)	0.0417
Average Period	Daily
Maximum Gas Volumetric Flow (m ³ /hr)	-
Maximum Gas Exit Velocity (m/s)	-
Emission Hours	24
Basis for Emission Rates	Dispersion modelling based on MES

Emission Detail for Reporting Groups Dross Cooling bay	
Pollutant Name	Particulate Matter (PM30/TSP)
Maximum Release Rate* (g/s)	0.0208
Average Period	Daily
Maximum Gas Volumetric Flow (m ³ /hr)	-
Maximum Gas Exit Velocity (m/s)	-
Emission Hours	24
Basis for Emission Rates	Dispersion modelling based on MES

Emission Detail for Reporting Groups Dross Cooling bay	
Pollutant Name	Particulate Matter (PM30/TSP)
Maximum Release Rate* (g/s)	0.00735
Average Period	Daily
Maximum Gas Volumetric Flow (m ³ /hr)	-
Maximum Gas Exit Velocity (m/s)	-
Emission Hours	24
Basis for Emission Rates	Dispersion modelling based on MES

Monitoring, Management & Mitigation

Monitoring Detail for Reporting Group RG0001 (Main Foundry Building)	
Pollutant Name	Particulate Matter
Monitoring Method*	EPA 17 or other approved method
Monitoring Location*	SV0001
Average Monitoring Duration	60
Measured Parameters	PM concentration
	Time of Day
	Barometric Pressure
	Pitot Pressure
	Gas Temperature (Average)
	Gas Velocity (Average)
	Duct Diameter
	Volumetric Flow Rate (actual)
Volumetric Flow Rate (STP)	
Applicable Emission Unit	EU0001, EU0002, EU0003, EU0004, EU0005, EU0006, EU0007, EU0008, EU0009, EU0010, EU0011, EU0012, EU0013, EU0014, EU0016, EU00017, EU0018, EU0019, EU0020

Monitoring Detail for Reporting Group RG0001 (Main Foundry Building)	
Pollutant Name	Sulphur dioxide (SO2)
Monitoring Method*	EPA 6C or other approved method
Monitoring Location*	SV0001
Average Monitoring Duration	60
Measured Parameters	SO2 concentration
	Time of Day
	Barometric Pressure
	Pitot Pressure
	Gas Temperature (Average)
	Gas Velocity (Average)
	Duct Diameter
	Volumetric Flow Rate (actual)
Volumetric Flow Rate (STP)	
Applicable Emission Unit	EU0001, EU0002, EU0003, EU0004, EU0005, EU0006, EU0007, EU0008, EU0009, EU0010, EU0011, EU0012, EU0013, EU0014, EU0016, EU00017, EU0018, EU0019, EU0020

Monitoring Detail for Reporting Group RG0001 (Main Foundry Building)	
Pollutant Name	Oxides of nitrogen expressed as Nitrogen Dioxide (NO2)
Monitoring Method*	EPA 7E or other approved method
Monitoring Location*	SV0001
Average Monitoring Duration	60
Measured Parameters	NO2 concentration
	Time of Day
	Barometric Pressure
	Pitot Pressure
	Gas Temperature (Average)

	Gas Velocity (Average)
	Duct Diameter
	Volumetric Flow Rate (actual)
	Volumetric Flow Rate (STP)
Applicable Emission Unit	EU0001, EU0002, EU0003, EU0004, EU0005, EU0006, EU0007, EU0008, EU0009, EU0010, EU0011, EU0012, EU0013, EU0014, EU0016, EU00017, EU0018, EU0019, EU0020

Monitoring Detail for Reporting Group RG0001 (Main Foundry Building)	
Pollutant Name	Fluoride a Hydrogen Fluoride (F as HF)
Monitoring Method*	EPA 7E or other approved method
Monitoring Location*	SV0001
Average Monitoring Duration	60
Measured Parameters	HF concentration
	Time of Day
	Barometric Pressure
	Pitot Pressure
	Gas Temperature (Average)
	Gas Velocity (Average)
	Duct Diameter
	Volumetric Flow Rate (actual)
	Volumetric Flow Rate (STP)
Applicable Emission Unit	EU0001, EU0002, EU0003, EU0004, EU0005, EU0006, EU0007, EU0008, EU0009, EU0010, EU0011, EU0012, EU0013, EU0014, EU0016, EU00017, EU0018, EU0019, EU0020

Monitoring Detail for Reporting Group RG0001 (Main Foundry Building)	
Pollutant Name	Total Volatile Organic Compounds (TVOC)
Monitoring Method*	EPA 7E or other approved method
Monitoring Location*	SV0001
Average Monitoring Duration	60
Measured Parameters	TVOC concentration
	Time of Day
	Barometric Pressure
	Pitot Pressure
	Gas Temperature (Average)
	Gas Velocity (Average)
	Duct Diameter
	Volumetric Flow Rate (actual)
	Volumetric Flow Rate (STP)
Applicable Emission Unit	EU0001, EU0002, EU0003, EU0004, EU0005, EU0006, EU0007, EU0008, EU0009, EU0010, EU0011, EU0012, EU0013, EU0014, EU0016, EU00017, EU0018, EU0019, EU0020

Monitoring Detail for Reporting Group RG0001 (Main Foundry Building)	
Pollutant Name	Ammonia (NH3)
Monitoring Method*	EPA 7E or other approved method
Monitoring Location*	SV0001
Average Monitoring Duration	60

Measured Parameters	NH3 concentration
	Time of Day
	Barometric Pressure
	Pitot Pressure
	Gas Temperature (Average)
	Gas Velocity (Average)
	Duct Diameter
	Volumetric Flow Rate (actual)
	Volumetric Flow Rate (STP)
Applicable Emission Unit	EU0001, EU0002, EU0003, EU0004, EU0005, EU0006, EU0007, EU0008, EU0009, EU0010, EU0011, EU0012, EU0013, EU0014, EU0016, EU00017, EU0018, EU0019, EU0020

Monitoring Detail for Reporting Dross Recovery Building, Dross Cooling (Dross Recovery)	
Pollutant Name	Particulate Matter
Monitoring Method*	EPA 17 or other approved method
Monitoring Location*	SV0002
Average Monitoring Duration	60
Measured Parameters	PM concentration
	Time of Day
	Barometric Pressure
	Pitot Pressure
	Gas Temperature (Average)
	Gas Velocity (Average)
	Duct Diameter
	Volumetric Flow Rate (actual)
	Volumetric Flow Rate (STP)
Applicable Emission Unit	EU0015, EU0021

Monitoring Detail for Reporting Group Recovery Building, Dross Cooling (Dross Recovery)	
Pollutant Name	Dustfall – none unless the air quality officer requests it.
Monitoring Method*	ASTM D1739 (1970) – only if requested by air quality officer.
Monitoring Location*	To be determined by dust monitoring service provider if dustfall monitoring is required.
Average Monitoring Duration	
Measured Parameters	
Applicable Emission Units	EU0015, EU0021

Mitigation Information for Reporting Group RG0001; Recovery Building and Dross Cooling (all area sources): specific mitigation required in terms of AEL	
Compliance to specific measures (Y/N)	Yes
Description of specific mitigation measures	<ol style="list-style-type: none"> 1) Fugitive PM emissions should be minimised to avoid off-site exceedances of NAAQS and NDCR. Measures to be considered are: <ol style="list-style-type: none"> a. Good housekeeping, e.g., avoiding and cleaning up spillages of fine materials such as baghouse dust and dross. b. Keep vehicle driveways clean and free of dust to avoid entrainment. c. Avoid unnecessary handling of dry fine materials such as dross as it is removed from the foundry to the cooling bay to the recovery plant. d. Ensure cooling dross stockpiles are not exposed to wind to avoid windblown dust. 2) Fugitive ammonia emissions must be avoided by keeping dross dry i.e., covered within the dross recovery building. 3) To reduce vehicle exhaust emissions, avoid unnecessary idling of vehicles on-site. 4) In terms of <i>compliance monitoring</i>, the periodic compliance emissions monitoring will be required from GeT Alloys under section 21(1)(b) of NEMAQA. The requirements for periodic emissions monitoring are as follows <ol style="list-style-type: none"> a. The averaging period shall be expressed on an hourly average basis or as prescribed in the AEL. b. Emission measurement must be conducted in accordance with the methods listed in Annexure A of section 21(1)(b) of NEMAQA. c. Measurements shall take place on, at least, an annual basis unless otherwise prescribed in the AEL. d. Sampling will take place under normal operating conditions using the permitted feed-stock or raw material. e. All tests will be conducted by South African National Accreditation System (SANAS) accredited laboratories or laboratories accredited by similar foreign authorities. 5) An air quality monitoring programme can confirm both baseline and project related air pollution levels and provide information useful in assessing the effectiveness of emissions management strategies. After careful consideration of the dispersion simulations, the following is recommended <ol style="list-style-type: none"> a. Visual inspection and reporting of dust emissions sources annually and in response to complaints. Photographic records can be useful b. Passive diffusive sampling of ammonia within the dross recovery building upon commencement of production to confirm assumptions with regards to the formation and emissions of ammonia. A specialist should be consulted in the methodology

	<p>6) A register for complaints relating to air quality should be maintained. It must include the name, contact and affiliation details of the complainant, the date of the complaint, the date and time of the pollution incident, and a detailed description of the incident</p> <p>7) Dustfall sampling in accordance with NDCR, that meets sampler location requirements, will most likely not be possible given the size and built-up nature of the site and is therefore not currently recommended. Fugitive dust monitoring will be reliant on visual inspection and reporting as recommended above.</p>
1. Timeframe for implementing specific measures	Ongoing during operation
Method of monitoring mitigation measure's effectiveness	<p>a) Annual stack emissions sampling.</p> <p>b) Annual audit of licence conditions.</p> <p>c) Regular review of the complaints register.</p>
Contingency measures	In the event of an incident causing acute pollution, such as mechanical failure, works should cease until the failure is remedied.