

Venus Wire Industries Pvt. Ltd.

CBAM Report | October 2023-December 2023



Contents

Venus Wire Industries Pvt. Ltd.	1
1. Executive Summary	4
2. Guidelines and Conditions	4
3. About Company: Venus Wire Industries Pvt Ltd	4
4. Aggregated goods categories with product Code list and relevant production processes.....	6
5. Reporting period	6
6. Verifier of the report	6
7. Purchased precursors.....	6
8. Detailed Production flow Chart.....	7
9. Monitoring Methodology Documentation (MMD).....	9
10. Installation's Emission at source stream and emission source level.....	9
11. Precursors emission level.....	10
12. Production level and attributed emissions for SEE calculation.	10
13. Conclusion.....	11
14. References.....	12
15. Annexure-1.....	13
15.2 Annexure -2.....	14

List of Tables

Table 1 SEE from Venus Wire industries Pvt. Ltd. from 01 st October to 31 st December 2023	4
Table 2 About the installation: Venus Wire Industries Pvt Ltd.....	6
Table 3 Products with their CN code.....	6
Table 4 Product list with the purchased precursor	7
Table 5 Total Direct Emissions from Venus Wire Industries Pvt. Ltd.	9
Table 6 Total Indirect Emissions from Venus Wire Industries Pvt. Ltd.	9
Table 7 Emissions from precursor	10
Table 8 Total Specific Direct and Indirect Emissions from Venus Wire Industries Pvt. Ltd.	10
Table 9 Specific Embedded Emission (SEE) from Venus Wire industries Pvt. Ltd.	11
Table 10 Emission Factor.....	13

List of Figures

Figure 1 Manufacturing facility of Venus Wire Industries Pvt. Ltd. at Raigad, Maharashtra	5
Figure 2 Types of wire produced by Venus Wire (Coarse Wire, Fine Wire, Wire rod)	5
Figure 3 Types of welding wires produced by Venus Wire (TIG Wires, MIG Wires, SUB ARC Wires)	5
Figure 4 Process flow chart at Venus Wire Industries Pvt. Ltd.....	8

1. Executive Summary

Venus Wire Industries Pvt. Ltd. is a steel products manufacturer, has undertaken a comprehensive Carbon Border Adjustment Mechanism (CBAM) calculation to assess the carbon emissions associated with its diverse steel production, specifically Stainless-steel wires. This report outlines the methodology, results, and implications of the CBAM analysis. Calculation methodology involved a rigorous assessment of carbon emissions throughout the steel production process considering CBAM concept of direct, indirect and embedded emission from precursors. Scope of the study is to identify and calculate embedded emission based on their production process specific to product (SS Wires). The company has developed a detailed monitoring plan for collecting and monitoring relevant data on a defined periodic frequency. This report provides the emission data for past 3 months (Oct'23 – Dec'23).

Venus Wire Industries Pvt Ltd. recognizes the significance of addressing carbon leakage and ensuring a fair competitive landscape, they acknowledge that CBAM aligns with their commitment to environmental sustainability and global climate goals. Venus Wire Industries Pvt Ltd recognizes that CBAM can play a pivotal role in advancing the steel industry's transition towards a low-carbon future, promoting responsible business practices, and contributing to a more sustainable and resilient global economy.

For the period 01st October 2023 to 31st December 2023, specific embedded emission calculated for their products are as below.

Table 1 SEE from Venus Wire industries Pvt. Ltd. from 01st October to 31st December 2023

Product Name	Product HSN Code	Unit of Measurement	Specific Direct Embedded Emission	Specific Indirect Embedded Emission	Specific total Embedded Emission (SEE)
Stainless steel Wire	72230091	(tCO2e/t)	1.633	1.782	3.415

2. Guidelines and Conditions

This report has been prepared based on:

- Guidance document on “CBAM Implementation for installation operators outside the EU” released on 26th October 2023.
- Regulation (EU) 2023/956, which establishes a carbon border adjustment mechanism (the ‘CBAM Regulation’) to address greenhouse gas emissions embedded in certain goods ('CBAM goods': iron and steel, on their importation into the customs territory of the European Union).
- Article 35(7) of the Regulation, where the Commission adopted an implementing act which lays down the detailed rules for 'reporting declarants' (as defined in Article 2(1) of this implementing act) for reporting obligations upon import into the European Union during the transitional period from 1 October 2023 to 31 December 2025 ('transitional period').
- Default values for the transitional period of the CBAM between 1st October 2023 and 31st December 2025.

3. About Company: Venus Wire Industries Pvt Ltd

In 1965, Venus commenced its journey as a trading company specializing in Stainless Steel Long Products. Drawing upon gained experience and expertise in the field, we took a significant step in 1990 by establishing our own production unit, with a primary focus on serving the export market.

Venus is known as a reliable and quality supplier for stainless steel wires and bars. Currently, we are selling in more than 60 countries with a strong client base in industries such as automotive, aerospace, agriculture, energy, food, engineering, medical, oil & gas, power, transportation, welding etc.



Figure 1 Manufacturing facility of Venus Wire Industries Pvt. Ltd. at Raigad, Maharashtra

Venus produces stainless steel bars in austenitic, ferritic, martensitic and precipitation hardening stainless. They manufacture Stainless Steel Coarse Wires in a wide range of sizes, from 0.70 mm to 22 mm (0.028" - 0.870").

Venus produces tig wires in coil and cut lengths in size range of 0.80 mm to 6.00 mm (0.030" to 0.236") in austenitic, duplex, martensitic, ferritic and precipitation hardening stainless steel according to AWS SFA 5.9 standard.



Figure 2 Types of wire produced by Venus Wire (Coarse Wire, Fine Wire, Wire rod)



Figure 3 Types of welding wires produced by Venus Wire (TIG Wires, MIG Wires, SUB ARC Wires)

Table 2 About the installation: Venus Wire Industries Pvt Ltd

Parameter	Value
Name of the installation	Venus Wire Industries Pvt Ltd
Street, Number	Atkargaon, Takai-Adoshi, Khopoli, Raigad, Maharashtra-- 410 203 India
Economic activity	Manufacturing of Stainless-steel wires
Country	India
UNLOCODE	IN
Coordinates of the main emission source (latitude)	20.6919
Coordinates of the main emission source (longitude)	75.4244
Reporting period start	01 st October 2023
Reporting period end	31 st December 2023
Name of the authorized representative	Mr. Krunal Gaikwad
Email	qms@venuswires.com
Telephone	8097711227

4. Aggregated goods categories with product Code list and relevant production processes

The aggregated goods categories include semi-finished and finished products that are consumed in the production of iron or steel products. The list of products with their CN codes are listed below: -

Table 3 Products with their CN code

S.No.	Installation Name	Product Name	Product CN Code	Product Description	Precursors	Production Route
1	Venus Wire Industries Pvt Ltd	Stainless steel Wires	72230091	Wires of Stainless steel	Wires and rods of Stainless Steel	Processing units - Annealing and Pickling

5. Reporting period

The Reporting period covers from 1st October 2023 to 31st December 2023.

6. Verifier of the report

The last quarter data (01st October -31st December 2023) reported here has been verified by DQS India.

Since 1985, DQS has been the trusted certification and assessment partner for quality-focused companies around the world – companies who are serious about organizational health and long-term success. With audits, assessments, and certifications, the organisation has helped 300+ organizations to achieve sustainable business success across the globe.

7. Purchased precursors.

Purchased precursors refer to materials that have been acquired for use in a process, and they come with associated emissions that occurred during their original production. These emissions are a result of the

manufacturing or production processes that took place before the materials were obtained for the current use or application.

Table 4 Product list with the purchased precursor

S.No.	Products	Product CN Code	Precursors		Precursor HSN code
			Purchased	Purchased From	
1	Stainless steel Wires	72230091	Stainless Steel wires and rods	Units from various part of India and abroad	7221 7223

8. Detailed Production flow Chart

Venus Wire Industries Pvt. Ltd. have following production process, detailed process flow chart has been attached below(refer fig 4);-

About Products –

1. Stainless Steel Coarse Wire - in a wide range of sizes, from 0.70 mm to 22 mm (0.028" - 0.870")
2. Fine Wires- ranging from 0.10 mm to 0.90 mm (0.004" – 0.035")
3. Wire Rod-ranging from 5.5 mm – 26 mm (0.0217" – 1.000")

The steel wire manufacturing process at Venus Wire Industries Pvt Ltd begins with Incoming Raw Material Inspection & Storage. This stage involves a meticulous examination of received materials, ensuring compliance with specifications such as diameter, grade, coil weight, surface quality, melting mill source, heat number, quantity, and supplier identification tags. Following this, Solution Annealing is employed as a heat treatment process to enhance material ductility. Pickling, a chemical cleaning process, removes scale from the wire or wire rod surfaces. Coating & Baking serve as wire rod surface preparation, acting as a lubricant carrier during the subsequent cold drawing process. Soap Drawing, performed twice, is a drawing process aimed at achieving the required material dimensions and desired mechanical properties. Inline Cleaning & Strand Annealing further enhance material ductility. Stand Annealing is another heat treatment step for additional improvement. The process concludes with Finish Wire Drawing, producing a bright finish while achieving the desired dimensions and mechanical properties. The Final Inspection & Testing stage ensures the steel wires meet customer requirements and specifications for dimensions, mechanical properties, and surface quality, ensuring the production of high-quality steel wire.

Sr No:	Operation	Special Characteristics	Process	Incoming	Inspection	Storage	Process Description
			○	△	□	▽	
10	Incoming Raw Material Inspection & storage	-		△	□	▽	The RM inspection is performed to ensure received Material diameter, Grade, Coil weight, Surface quality, Melting Mill source, Heat number, Quantity, & supplier identification Tag available as per requirement.
20	Solution Annealing	-	○			▽	The heat treatment process which is used to improve ductility of material
30	Pickling	<SC>	○		□	▽	The pickling process is chemical cleaning process used to remove scale from the surface of the wire/wire rod
40	Coating & Baking	-	○		□	▽	The coating is a wire rod surface preparation process. Acts as a lubricant carrier to carry the wire drawing lubricant into the die during cold drawing process.
50	Soap Drawing	-	○		□	▽	The drawing process which is used to draw material to the required dimension as well as achieving desired mechanical properties
60	Inline Cleaning & Strand Annealing	-	○		□	▽	The heat treatment process which is used to improve ductility of material
70	Soap Drawing	-	○		□	▽	The drawing process which is used to draw material to the required dimension as well as achieving desired mechanical properties
80	Stand Annealing	-	○		□	▽	The heat treatment process which is used to improve ductility of material
90	Finish Wire Drawing (Bright Finish)	<SC>	○		□	▽	The drawing process which is used to draw material to the required dimension as well as achieving desired mechanical properties
100	Final Inspection & Testing	-			□	▽	The Final inspection is performed to ensure dimensions, Mechanical Property & surface of wires as per the customer requirements /specifications.
110	Packing	-	○			▽	In packing process the Packing of wires are done in Coil, Carrier or pallet packing as per the customer requirement with proper material identification and to protect the material from Humidity, dust, contamination, damage etc.
120	Dispatch	-				▽	Dispatching the material as per the planning and customer schedule.

Figure 4 Process flow chart at Venus Wire Industries Pvt. Ltd.

9. Monitoring Methodology Documentation (MMD)

The data has been monitored for the reporting period –01st October 2023 to 31st December 2023.

- Data collection has been done for all their direct and indirect emission sources etc.
- For direct emission process wise fuel (Propane) consumption data collected. For production process propane is being used for furnace heating, Monthly data is collected for the same and maintained in the SAP.
- Non-renewable power received from the Grid, DG sets and renewable power generated data on a collected monthly basis.
- Product process wise finished goods (wire rods) produced, and its corresponding input material is being used is also mapped on a monthly basis.
- Sampling methodology is defined in the monitoring plan along with its frequency, monitoring device to be used and frequency of its calibration has also been included.
- Purchased precursor reception details along with its analysis and conclusion responsibility is mentioned.
- Each task has defined ownership and before submission for final calculation and verification all the data verification requirement is also taken into consideration under monitoring plan.

Detailed Emission factor is attached as [Annexure 1](#) and Monitoring plan is attached as [Annexure 2](#).

10. Installation's Emission at source stream and emission source level

Venus Wire Industries Pvt. Ltd.'s emissions for the period 01st October 2023-31st December 2023 is as per Following bifurcation. The total Direct Emissions estimated at **523.295 tCO₂e** and indirect emissions estimated at **1,477.317 tCO₂e**.

Table 5 Total Direct Emissions from Venus Wire Industries Pvt. Ltd.

Fuel Type	Month wise Consumption (kgs)			Total Activity data (Kgs)	Emission factor (tCO ₂ e/t)	Total Direct Emission tCO ₂ e
	October	November	December			
Propane	57,500	54,500	63,330	175,330	2.98463	523.295
Total Direct Emission (tCO₂e)						523.295

Table 6 Total Indirect Emissions from Venus Wire Industries Pvt. Ltd.

Energy Type	Unit of Measurement	Month wise Consumption (KWH)			Total Activity data	Total Indirect Emission tCO ₂ e
		October	November	December		
Electricity from Grid	KWH	700,602	509,254	846,477	2,056,333	1,472.334
Electricity from DG set	L	730	540	570	1,840	4.983
Total Indirect Emissions (tCO₂e)						1,477.317

11. Precursors emission level

The contribution from the purchased precursors of Venus Wire Industries Pvt. Ltd.'s emissions for the period 01st October 2023-31st December 2023. The Direct emission is estimated at **7,879.614 tCO₂e** and indirect emission is estimated at **7,693.725 tCO₂e**.

Table 7 Emissions from precursor

Precursor-SS Wires and rods	Qty(tonnes)	Direct EF	Indirect EF	Total direct Emission (tCO ₂ e)	Total Indirect Emissions (tCO ₂ e)
Supplier 1 (Mukand Limited)	2,423.082	0.709	0.937	1,717.965	2,270.427
Supplier 2 (Sunflag steel)	469.680	2.096	0.369	984.449	173.312
Supplier 3 (Advance Power Pvt Ltd)	1.040	2.13*	2.36*	2.215	2.454
Supplier 4 (Chandan steel Ltd, Shyam Steel, Synergy steel etc)	2,418.217	2.14*	2.17*	5174.984	5247.531
Total Emission	5312.019			7,879.614	7693.725

* Default values considered in absence of Supplier data

12. Production level and attributed emissions for SEE calculation.

Venus Wire Industries Pvt. Ltd's total specific embedded emission (SEE) is estimated at **3.415 tCO₂e/tons** of production, total specific direct emissions is estimated at **1.633 tCO₂e/tons** of production and specific indirect emissions is estimated at **1.782 tCO₂e/tons** of production.

Table 8 Total Specific Direct and Indirect Emissions from Venus Wire Industries Pvt. Ltd.

Emission source	Direct emission	Specific Direct Emission	Indirect emission	Specific Indirect Emission	Total Specific Embedded Emission
	tCO ₂ e	tCO ₂ e/tons of production	tCO ₂ e	tCO ₂ e/tons of production	tCO ₂ e
Installation	523.295	0.102	1,477.318	0.287	0.389
Precursor	7,879.614	1.531	7,693.725	1.495	3.026
Embedded Emission	8,402.909	1.633	9171.043	1.782	3.415

13. Conclusion

In accordance with the principles of the Carbon Border Adjustment Mechanism (CBAM), Venus Wire Industries Pvt. Ltd. has reported all direct and indirect emissions for 3 months, spanning from October 1, 2023, to December 31, 2023. The total embedded carbon emissions during this specified period are quantified at **17,573.952 tCO₂e** of which embedded direct emission is estimated at **8,402.909 tCO₂e** and indirect emission is estimated at **9,171.043 tCO₂e**.

It also specifies that the precursors contribute **>89%** of the total embedded emission, resulting only **11%** of emission contributed by the installation. It would be beneficial for Venus Wire Industries Pvt. Ltd. to get the supplier's direct and indirect embedded emission to bring down the specific embedded emissions of their product. The CBAM Template has been filled up with the following conclusive information:

Table 9 Specific Embedded Emission (SEE) from Venus Wire industries Pvt. Ltd.

Product Name	Product Code	Unit of Measurement	Specific embedded direct emission (SEE dir)	Specific embedded indirect emission (SEE indir)	Specific embedded emission (SEE)
Stainless Steel Wires	72230019	MT CO ₂ e/ MT of product	1.633	1.782	3.415

14. References

1. CBAM guidance document on CBAM implementation for installation operators outside the EU
https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en
2. IPCC2006 GL [Microsoft Word - V2_Ch2_Stationary_Combustion_Final.doc \(iges.or.jp\)](#)
3. Central Electricity Authority, Version 19
https://cea.nic.in/wp-content/uploads/baseline/2024/01/User_Guide_Version_19.0.pdf

15. Annexure-1

Table 10 Emission Factor

Fuel/Energy Type	Emission factor	EF Unit	Reference
Propane	2.98463	tCO ₂ e/t	IPCC Microsoft Word - V2_Ch2_Stationary_Combustion_Final.doc (iges.or.jp)
Diesel	2.708	kgCO ₂ e/L	IPCC Microsoft Word - V2_Ch2_Stationary_Combustion_Final.doc (iges.or.jp)
Electricity	0.716	tCO ₂ e/MWH	CEA Version 19 https://cea.nic.in/wp-content/uploads/baseline/2024/01/User_Guide__Version_19.0.pdf
For Precursor (7221)			
Direct emissions	2.14	tCO ₂ e/t	https://taxation-customs.ec.europa.eu/system/files/2023-12/Default%20values%20transitional%20period.pdf
Indirect emissions	2.17	tCO ₂ e/t	https://taxation-customs.ec.europa.eu/system/files/2023-12/Default%20values%20transitional%20period.pdf
For Precursor (7223)			
Direct emissions	2.13	tCO ₂ e/t	https://taxation-customs.ec.europa.eu/system/files/2023-12/Default%20values%20transitional%20period.pdf
Indirect emissions	2.36	tCO ₂ e/t	https://taxation-customs.ec.europa.eu/system/files/2023-12/Default%20values%20transitional%20period.pdf
For Precursor (Mukand Limited)			
Direct emissions	0.709	tCO ₂ e/t	Supplier's Emission data
Indirect emissions	0.937	tCO ₂ e/t	Supplier's Emission data
For Precursor (Sunflag Limited)			
Direct emissions	2.096	tCO ₂ e/t	Supplier's Emission data
Indirect emissions	0.369	tCO ₂ e/t	Supplier's Emission data

15.2 Annexure-2

Company Name		Venus Wire Industries Pvt. Ltd.												
DATA MONITORING PLAN														
Production process	Product code	Data required on	UOM	Data collection frequency	Data compilation frequency	Source of data	Data collected by	Data checked and reported by	Data reviewed and approved by	Sampling required?	Measuring device involved	Maintenance/calibration responsibility of measuring device	Data retention/archiving and protection responsibility	
1	Wire Rod 72230091	Steel	MT	weekly	Monthly	heat data	Rm planning & Production	Manager Planning	QA head / Directors - Mr. Rathnakumara K & Mr. Hitesh Bohra	yes	Weighing scale	Maint head- Prashant Patil	EDP department / Procedure of IT department for SAP - Sanket	
		Non renewable power from grid	kWh	Monthly	Monthly	light bill	Government body MSEB employee	Government body MSEB employee	officer MSEB	No	energy meter	Electrical third party NABL approved agency		
		Power from DG	kWh	Monthly	Monthly	light bill	Electrical Department - Pratik Patil	Electrical Department - SK gupta	Electrical Department - SK gupta	No	energy meter	Electrical third party NABL approved agency		
		Renewable Power	kWh	Monthly	Monthly	light bill	Government body MSEB employee	Government body MSEB employee	officer MSEB	No	energy meter	Electrical third party NABL approved agency		

SAMPLING PLAN						
Sample analysed for	Sampling frequency	Measuring device	Maintenance/Calibration responsibility	Analysis reported by	Analysis data approved by	Data retention/archiving and protection responsibility
%Carbon content of steel	Heat Wise	Spectrometer	OEM Manufacturer	QA	QA head- Rathnakumara K	as per QMS Work Instruction & documentation retention

PRECURSOR DATA		
Name of Precursor	Person responsible for collection of supplier emission data	Analysis of data and conclusion by
steel	Mr. Suresh Yadav/ Mr. neeraj Chaubey	QA- Head- Mr. rathnakumara K

CONTROLS & REVIEW			
Review of monitored data	Review of reporting data	Analysis of data for Further improvement	
Frequency of review	monthly	Mr. Suresh Yadav	