Technical Specification

“Demagnetizing system for railway rails in the Rails Finishing Area in ArcelorMittal Poland S.A. division Dąbrowa Górnicza”

Number: AMP/2019/DG/DWD/DWDL-6/31

concerns the project entitled “Reliable and durable in operation, modern railway rails with a length of 120 m, characterized by high mechanical properties, high resistance to cracking and a modified microstructure of the material due to the modernization of the cooling process after rolling”. (project no. POIR.01.01.01-00-0438/17), co-financed from the funds of the European Regional Development Fund and as part of the Smart Growth Operational Program 2014-2020, sub-measure 1.1.1 “Industrial research and development work carried out by enterprises”.

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1. GENERAL INTRODUCTION

ArcelorMittal Poland S.A. has operations in different units in Poland with primary steel production facilities in Krakow and Dąbrowa Górnicza and in Chorzów, Sosnowiec, Zdzieszowice which are responsible for production of different graded products in Poland.

These requirements refer to the project that aim is installation of demagnetizating system for railway rails in the rail finishing area in Dąbrowa Górnicza:

- Project execution (schedule, deliveries, resources)
- Manufacturing and delivery of the demagnetizing system and related to the project machines according to DDP INCOTERMS 2020
- Installation and assembling of demagnetizing system and related to the project machines
- Commissioning and ramp up
- Training for AMP personnel
- Supervision of the project in quality and quantity aspects and supervision over all works related to the project
- Elaboration of documentation (manuals, instructions, as-built doc.)

Detailed scope of work and deliveries being the subject of the Inquiry No. …….. is presented below in this specification.

Due to the Company's obligation to apply the competition principle, this technical specification constitutes a detailed description of the subject matter of the contract allowing for the preparation of tenders by the Bidders.

This specification has been drawn up with the utmost care in order to provide a full, unambiguous and exhaustive description of the subject matter of the contract so as to enable economic operators to determine all their obligations and risks and to calculate the price and other elements of the offer in a responsible way.

All of the purchases, services and supplies which are the subject of this enquiry must be incorporated and cooperate with the existing infrastructure and equipment in the Company and also must meet the same technological standards. Therefore, the need to maintain the same technological conditions and the need to maintain the unification of equipment resulting from the expansion of the existing infrastructure have determined the provisions of this specification. The provisions applied are justified by the need to ensure the smooth running of the project. The provisions indicated do not impose an obligation on Economic Operators to apply the solutions indicated but only inform about minimal parameters and standards. Using certain types of solutions is not obligatory but only exemplary. The indications in relation to the expected technical parameters, as well as indications concerning specific types and manufacturers' names are of a general nature, referring only to sample indications of equivalent products and do not constitute the only acceptable solution. On this basis, the contracting authority shall accept equivalent solutions.

It is expected that the tenderers will submit an offer taking into account the requirements of this Technical Specification.
The offer must be complete in all respects and must include all components / devices necessary to achieve a sound design, operation and maintenance of the installation. The tenderer must read this specification and make sure that the installation is technically feasible and assume full responsibility for the guaranteed operation of the supplied installation and equipment in terms of performance, efficiency, smooth and reliable operation.

The Bidder will read the requirements contained in this documentation and take full responsibility for the guaranteed level of operation of the installation made in accordance with the technical arrangements, scope and documentation provided by him, with regard to the logic of correctness of the calculations made and functionality in accordance with good engineering practice and the latest technical knowledge.

The Contractor is required to be familiar with and respect Investor's standards, in particular H&S standards and performance standards (Investor's standards are available at

www.arcelormittal.com/poland, tab "FOR CONTRACTORS"). Furthermore, Investor's standards are enclosed with the Contractor's Safety Manual and will be provided to the Contractor by the Investment Purchasing Office. The Contractor is obliged to respect and follow them at all times on a regular basis at all stages of the investment:

Contractor is obliged to respect and follow them at all times on a regular basis at all stages of the investment:

- ST 000 H&S Policy
- ST 001 Insulation
- ST 002 CONFINE SPACE
- ST 003 WORK AT HEIGHT
- ST 005 Audits
- ST 006 VEHICLES AND ROAD TRAFFIC
- ST 007 OVERHEAD CRANES AND LIFING EQIPMENT
- ST 008 Contractor
- ST 009 Alarm
- ST 010 Safety indicators
- ST 011 Incident/Accident investigation
- ST 012 WORK AT GAZ HAZARDOUS AREA
- ST 014 HIRA (ang. Hazard Identification and Risk Assessment)
- ST 015 Golden Rules
- ST 018 Loading protection
- ST 201 H&S specification
- ST 301 Mobile phones

ATTENTION: In the case of different requirements in subsequent standards and / or standards, consistent with those mentioned above, more stringent standards and / or standards should be applied (more restrictive)!

2. The data for the designing and developing technical offer

2.1 TOPs and utilities parameters

TOPs and utilities parameters are provided in the documents attached to the RFQ. If TOPs are not defined at this stage, they will be defined during tender negotiations. The Bidder in his technical offer will provide media consumption for each device (electricity, air, etc.)

2.2 Expected way of operating of the new system

The new demagnetization system should include and fulfil the following criteria:

- The demagnetization system must be installed in line number 385 in region 8 of the Dąbrowa Górnicza mill finishing area

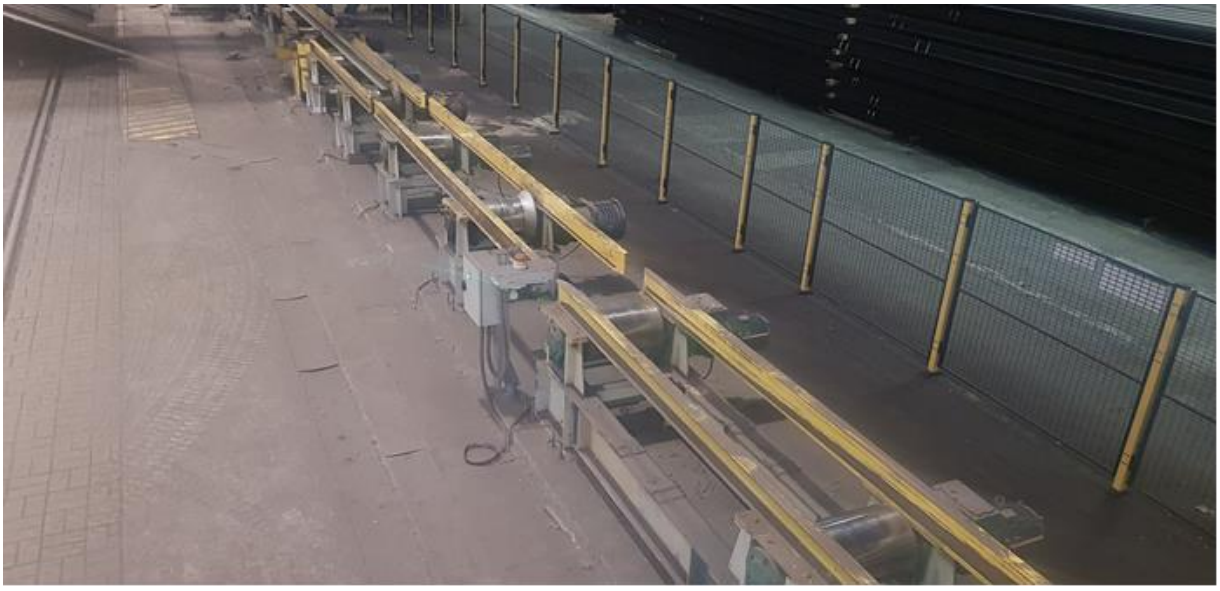


Figure 1 : Rail finishing area – line number 385

- demagnetization system will be equipped with one DC magnetization coil, one DC demag coil and one AC demag coil, AC Demagnetization Frequency: 10-70Hz, Adjustable
- the demagnetization system of the rail along its entire cross-section and length; Maximum value of magnetic induction (after demagnetization) on the surface of the rolling rail head will not exceed 0.7 mT / Tesla /. If the normative value is exceeded, the demagnetization of the rail is carried out and the magnetic induction is checked again. New Demagnetizer must be equipped with residual magnetism checking system
- the new system will be suitable for all railway rails types specified in the AMP directory. https://poland.arcelormittal.com/fileadmin/Content/produkty/Szyny_kolejowe.pdf and all steel grades including the planned R400HT grade
- the new system will operate within the required standard in the ambient temperature range from -30 ° C to 40 ° C.
- Measuring equipment built in the demagnetization system must be approved and legalized
- The measuring instruments built in the demagnetization system will ensure the measurement of magnetic induction in the range from 0.2 to 100 mT and have a maximum permissible relative error of magnetic induction measurement with the highest value of the measurement range of ± 10%.
- Measurement of the magnetic induction on the running surface of the head of the rails will be made on the whole length of the rails without interruption. Obtained results of measurements will be developed in the form of graphs of magnetic induction distribution on the length of rails during continuous measurement or in the form of a measurement protocol with a table of magnetic induction values for each rail measured

- the new system will have an interface to finishing area L2 system content of the communication will be established during the project design phase. Standard communication L2 <-> demagnetization system is Socket TCP IP or WCF
- there must be a possibility to move out the device from the roller table line – manually by the operator overriding the automatic mode maintaining the functionality of the roller table line
- each measurement of the railway rail will be saved in the device's measurement data base and data along with the number of the rails stored for 10 years in AMP servers
- New system must provide the possibility to create reports from the data collected during the demagnetization process and be able to save them locally for the 30 days
- The new system must provide possibility to view results on another computer, offline results browser. The Data must be available also on the virtual machine (diagram, status, etc.). Virtual machine and operating system will be delivered by AMP. The data should be available offline to be watched by No. of clients specified by AMP on PC Windows 10 (on computers in AMP domain).
- New system's hardware and networks must be built based on the requirements provided in separate document – AIM Addendum to tender – automation system requirements EN V13
- The device should not emit an electromagnetic field, daily exposure index W<1 (employee exposure)
- all assembly-installation works occurring during design, installation and erection time of the project and related to the project will be a responsibility of the bidder
- Analysis of the safety system should be done as a part of the project, the results of this analysis should be included in the technical offer. Update in the AMP PLC and visualization system will also be included.
- the new demagnetizing system should be equipped with signalling devices - sound signalling and lamps which will switch automatically when the device is working
- demagnetizing system will be capable to work with rail speed at the demagnetization point of 2.7 m / s (maximum speed)
- the new system will be suitable to demagnetize rails with length of up to 120 meters
- the device must have a Conformité Européenne (CE) certificate
- the Bidder is requested to provide with the technical offer a media requisition – for example electrical power
- delivery, unloading, area preparation, civil works, assembly, start-up of the system etc. Are up to the Bidder
- PLC controllers used in the new system will be as per relevant AMP standard

3. Bidders' scope of work

The Contractor must ensure H&S supervision throughout the entire project realization period.

It is require that during HSM finishing area stoppage reserved to perform works Bidder will be working in 24/7 system – all shifts fully filled. Stoppage time – 5 days. Works which have no impact to production process must be started before the stoppage. The planned date for mill stoppage is December 2022. The exact date of the stoppage will be given by AMP project team 30 days before the planned date – 01.12.2022

3.1. The scope of work and deliveries should include the following elements

1. Performance of current state analysis and safety system and including the outcome of this analysis in the technical offer.
2. Execution of project and technical documentation of the demagnetizing system and other related machines in all necessary scopes (technical documentation for review and approval by the ArcelorMittal team maximum 3 months after contract signature Approval of the technical documentation by ArcelorMittal doesn't release the Bidder from responsibility of the proper functioning of the system.
3. As-built documentation for the system, installation etc. Delivered documentation must include protocols (e.g. electrical measurements), settings of security system if needed, manuals for devices installed in the system, electrical and network diagrams, construction drawings, new area layout, order numbers and manufacturers of the installed parts, operating instruction for maintenance etc. As-built documentation must be in Polish and must be delivered 30 days after signing the "commissioning" protocol
4. Performance all required disassembly and construction works necessary for installation of new devices. Disassembly and construction works will start during the finishing area stoppage – planned date 01.12.2022
5. Performance all assembly and piping works (distribution, technological and installation piping etc)
6. Performance all electrical (including modernization of the switchgear – if necessary) works.
7. Installation on site of the whole system elements including demagnetizing system, mechanical support, construction frames for the machines etc.
8. Deliver and install control panel for all delivered machines, this panel will be installed inside 7P22 bridge in the Dąbrowa Górnicza mill and will be incorporated into the existing infrastructure
9. Automation system design with ramp up for all delivered machines.
10. Delivery and installation of all required cables e.g. power supply, ethernet, communication cables. ArcelorMittal will show the place where is a possibility to connect required cables.
11. Basic and auxiliary materials and equipment necessary to complete the scope of the project must be provided by the Bidder. Equipment for the project realization must be provided by the Bidder (e.g. driller, chain slings, crane, forklift).
12. Start up of the new control system including all the programming work related to the project.
13. All assembly-installation works occurring during design, installation and erection time of the project and related to the project will be a responsibility of the bidder.

14. Providing an additional fence - safety fencing. Installation must prevent access by unauthorized people

15. First fill of the new system together with delivery of the necessary utilities are on the bidder side.

16. Delivery of spare parts list for one year operation – parts critical for the system with long term delivery, consumable parts etc. . List of spare parts acc. to appendix No.6

17. The Bidder will provide a list of exclusions / exclusions in the form of a liability matrix relating to the subject of the contract not constituting the acceptance criteria - IF APPLICABLE. The list of exclusions may not lead to partial implementation of the subject of the order by the Supplier. The purpose of the list of exclusions is to show the Supplier's responsibility for the material performance of the subject of the order. The list of exclusions may not constitute the scope of any supplementary or additional orders at a later stage of the project implementation.

18. Bidder must provide training for operators, maintenance and AMP engineers all shifts. The training must be provided for minimum of 25 people (total) and should include but not be limited to: operational training, fault finding training for mechanical, electrical and automation branch, service and maintenance training, relacing of the key features in the system After the warranty period, ArcelorMittal will be fully responsible for the service of new devices.

19. Commissioning of the new demagnetizing system. The Bidder must provide the team and resources in such a quantity to allow timely putting the new system into operation. The bidder will specify in the offer how long would the commissioning of all delivered machines will take in order to start normal production of the rail .The Bidder shall ensure the presence of an automation system engineer. The automation system engineer will be present during the commissioning works and will be responsible to solve any programming and ramp-up problems.

20. Bidder or bidder's representative (Project Manager) must be present on every technical meeting during project execution period of time or on AMP request. The project manager will supervise the correctness of the execution of works in the field of mechanics, construction, electricity, automation . It will also inform AMP about the progress of the disassembling work and commissioning of the new machines. Communication between AMP and the Bidder's representative will be in Polish (alternatively in English).

3.2. Plan of handover and tests

1. Delivery of the technical documentation within 3 months from the contract signature

2. Delivery of all equipment and materials acc. to the Purchase Order (min 7 days before assembly on site).

3. Installation of all delivered equipment and material acc. to the Purchase Order.

4. Checking of installed equipment and quality of performed works:

a. Supervision over installation and checking quantity of installed equipment specified in the ''Technical Specification'' and approved technical offer.

b. Supervision over installation and checking quality of performer work specified in the ''Technical Specification'' and approved technical offer.

c. Signing of the protocol confirming the scope and quality of performed work (all branches) by project manager from the bidder side and AMP

"Cold'' tests /without material/

a. Checking functionality of all installed equipment.

b. Checking the correctness of safety system operation – adjustments and control of all protections completed with protocols.

c. Functional and voltage tests of electrical systems

d. Pressure and leak-proof tests of hydraulic systems and ventilation (if required)

e. Protocols confirming compliance of electrical parameters of installed devices

f. Carry out the test to confirm the correct operation of the new installed system

Note: Successful completion of cold tests will be base for signature of so-called ‘’commissioning‘’ protocol and starting hot tests.

5. Hot tests /with material/:

a. **Operation of the line for 30 days without any failure** in accordance with current production plan.

b. Hot commissioning will be carried out by ArcelorMittal with bidder supervision. Rails according to the current production given by AMP will be tested –the hot commissioning will be finished by signing the Final Acceptance Protocol (FAP). ArcelorMittal reserves the rights to decide which profiles and grades of the rails will be tested during the hot commissioning period.

c. Successful completion of the hot tests, delivery of whole required project documentation in Polish, performing of required training for AMP personnel and 30 days of failure free operation of the whole installation will be base for signing of the “FAP” - protocol Final Acceptance Protocol.

d. Time for removing the significant failure (stoppage of the production, lack of demagnetization) – up to 48H

e. Time for removing the non-significant failure (no stoppage of the production, demagnetizing system is working but the tool is not performing correctly) – up to 12H

7. Drawings and documentation

1. List of all elements and parts used for project execution
2. List of necessary spare parts
3. Recommendations regarding periodical inspections and maintenance preventive activities, manuals – delivered documentation in Polish.
4. As-built documentation which will include:
   - Electrical diagram
   - Network diagram
   - Cable trays
   - Mechanical assembly and execution drawings
   - Custom made parts – execution drawings
   - Safety analize protocol
   - Conformité Européenne - CE declaration for new demagnetization system
   - Maintenance manual and service manual in Polish
   - The documentation shall include a list of materials for all components and parts used (manufacturer, trade name, catalogue code with the name of the catalogue and their markings on the documentation and references to their location;
   - Technical documentation of newly built elements or modernized elements of hoists.
   - Complete mechanical documentation must be provided – assembly and executive drawings.

Documentation must be supplied in quantities: 3 x hardcopy, 3 x electronic and editable version. Software not protected from reading and editing.

6. **Software**

   Delivery of software which is unprotected form reading and editing.

4. Time of work completion

1. Execution of works specified in this technical specification will take place in December 2022

2. The initial schedule will be attached to the offer, including specific timeframes within which the Bidder shall submit to the Investor / execute technical assumptions for discussions, drawings, diagrams, elements of the system, software, assembly, integration, tests, commissioning etc.
Assumptions to the erection schedule:
   a. Installation: December 2022

3.The schedule will be prepared after mutual agreement prior to contract conclusion. The schedule will be will be guaranteed by the Bidder and will be a part of the commercial provisions indicated in the Commercial Offer.

4. Schedule:
• Submission of the technical documentation up to 3 months from signing the contract - condition confirmed by signing the protocol on both sides.
• Completion of complete deliveries up to 1 week before the start of the shutdown (planned period from 01/12/2022 to 6/12/2022) - completion of deliveries will be confirmed by signing the protocol on both sides.
- Disassembly of parts of the roller table and other equipment will start during the stoppage time – planned stoppage time 01.12.2022

• 3 days for programming and commissioning, which will result in a positive cold test and hot test and the signing of the Commissioning protocol, which will allow the start of the new system - (Completion date during finishing area stoppage from 01/12/2022 to 06/12/2022)
• After completion of the cold tests and signing the Commissioning protocol, 30 days of hot tests will begin, during which various profiles and grades of rails will be tested and the required parameters (described in section 2.2) must be achieved - the completion of the hot tests will be confirmed by a mutually signed Final Acceptance Protocol. Also failure free operation of the whole installed system during the period of 30 days must be obtained in order to sign the FAP.

The positive completion of the hot tests and the signing of the Final Acceptance Protocol must take place within 14 months from the date of signing the contract, not later than 30/02/2023.

5. Guarantee and warranty of delivery and execution quality

1. The Bidder shall guarantee high quality of works and of all specific and collective elements of the system. The bidder shall also guarantee high quality of systems/installations executed in accordance with his specification/design.
2. Required guarantee period – 24 months from signature of FAP.
3. The required response time of failure notification service: up to 24h; 24/7
4. Time given to remove a significant failure* – up to 48h, time counted form the arrival to the plant

   **Significant failure- failure with a negative impact to the quality of the final product (out of the process quality requirements.no demagnetization of the rails) or which stops or limits the production by more than 20%*
5. Time to remove non-significant failure* up to 12h, time counted from the arrival to the plant

   **Non-significant failure – failure which don't have a negative impact to the quality (demagnetization of the rails is performed, but system is not working correctly) of the final product and does not stop or limit the production be more than 20%*

6. Requires availability of maintenance service in Polish language. Possibility to report the failure by mail.
7. The Bidder should attach to the technical offer Responsibility Matrix for maintenance team for guarantee period.
8. The Bidder should attach to the technical offer failure notification procedure required service intervention.
9. The operational warranty shall include all elements of the system, including IT infrastructure, dedicated devices, software, electrical installations, etc. The fine for noncompliance with the warranty terms will be agreed upon in the commercial part during negotiations
10. The entire system compliant with the offer scope will be free of defects resulting from noncompliance with standards, good engineering practices, or from negligence during documentation execution. The bidder will be responsible for carrying out repairs and/or replacement of the faulty elements without additional charges.

6. Quality, workmanship, tests and control

1. Chosen and specified materials and devices must be of high quality, properly chosen for its purpose and compliant with practices and standards included in the requirement of this specification. All specified components used in later stages of works are subject to later inspections (checking) unless this obligation was withdrawn pursuant to the written statement submitted by the purchaser.
2. The purchaser reserves the right to re-inspect (by himself or by authorized parties) delivered data and documents. In the event of claims in reference to studies, documents or works – implementation of changes or improvements in works in accordance with presented remarks may be demanded from the Bidder

7. Safety of work and installation executed based on the scope

All delivered data (in view of studies, drawings and specifications, lists and technologies of workmanship) are subject to risk analysis of the installation. The analysis will be accessible to the staff of the purchaser or to the persons authorized by the purchaser to safely carry out works foreseen in the detailed engineering, to have access to the equipment in case of carried out maintenance works or during regular works. The offer should include all safety elements normally used in such cases. Also HAZOP study should be included in the offer.

8. Price

Price should be given for whole scope of work as detailed as possible. All elements should be divided into groups and described with a short identification. Price part of the offer should be executed based on the instruction delivered with RFQ or according to guidelines from Purchase Department.

9. Contact data

Project Manager:

1. Maciej Wrona +48 664 154 103 Maciej.Wrona@arcelormittal.com

Detailed technical consultation will be provided by:

2. Artur Kaczmarczyk ++48 795 525 179 Artur.Kaczmarczyk@arcelormittal.com

10. Appendices

Appendix no 1: Location, Environmental data.

Table 1. Location

Latitude	50°19′05″N
Longitude	19°14′14″E
The nearest agglomeration	Katowice
The nearest airport	Katowice-Pyrzowice (18 km)

Table 2. Environment-related data

DATA	VALUE
Max. temperature	36.0°C (historical value)
Min. temperature	-27.4°C (historical value)
Average annual temperature	8.4°C
Average yearly precipitation	671 mm
Highest monthly precipitation	94 mm
Average wind speed	1.7 m/s
Max. wind speed	3,4 - 5,5 m/s
Elevation above sea level	272 m

Appendix no 2: Legal acts to be observed in the course of project implementation on the premises of ArcelorMittal Poland S.A.

Building Law:
• The Act of 7 July 1994 - Building Law (Journal of Laws of 2017, item 1332).
• The Act of 18 July 2001 - Water Law (Journal of Laws of 2017, item 1121).
• The Act of 10 April 1997 - Energy Law (Journal of Laws of 2017, item 220).
• Regulation of the Minister of Transport, Construction and Maritime Management of 25 April 2012 on detailed scope and form of a construction design (Journal of Laws of 2012, Item 462).
• Regulation of the Minister of Infrastructure of 2 September 2004 on detailed scope and form of design documentation, technical specifications for performance and acceptance of civil works and the functional utility programme (Journal of Laws of 2013, Item 1129).
• Regulation of the Minister of Infrastructure and Construction of 24 August 2016 on template application for a building permit or demolition permit, notification of construction and reconstruction of a single-family residential building, statement of the right to dispose of real estate for construction purposes and decision of a building or demolition permit (Journal of Laws of 2016, Item 1493).
• Regulation of the Minister of Transport, Construction and Maritime Management of 25 April 2012 on establishing geotechnical conditions for positioning building structures (Journal of Laws of 2012, Item 463).
• Regulation of the Minister of Infrastructure of 30 August 2004 on the conditions and procedure related to dismantling of unoccupied or unfinished building facilities (Journal of Laws of 2004 No 198 Item 2043).
• Regulation of the Minister of Infrastructure and Development of 16 October 2015 amending the regulation on construction logbook, assembly and demolition, the information board and notice including occupational safety and health details (Journal of Laws of 2015, Item 1775).
• Regulation of the Minister of Infrastructure of 19 November 2001 on types of building facilities whose construction requires appointment of an owner's representative (Journal of Laws of 2001 No 138 Item 1554).

Spatial planning regulations (depending on the location):
• The Act of 27 March 2003 on Spatial Planning and Management (Journal of Laws of 2017 Item 1073).
• Regulation of the Minister of Infrastructure of 26 August 2003 on the required scope of the project of the local plan of spatial development (Journal of Laws of 2003 No 164 Item 1587).
• Regulation of the Minister of Infrastructure of 26 August 2003 on the method of determining the requirements of new construction and land development (Journal of Laws of 2003 No 164 Item 1588).
• Regulation of the Minister of Infrastructure of 26 August 2003 on the signs and terminology used in a decision on location conditions of a public investment project and decision on conditions of land development (Journal of Laws of 2003 No 164 Item 1589).

Geodetic requirements:
• Geodetic and Cartographic Law of 17 May 1989 (Journal of Laws of 2016, Item 1629).
• Regulation of the Minister of Spatial Development and Construction of 21 February 1995 on the type and scope of geodetic and cartographic documents and geodetic acts mandatory in the construction sector (Journal of Laws of 1995 No 25 Item 133).

Building products:
• The Act of 16 April 2004 on construction products (Journal of Laws of 2016, item 1570).
• Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on national technical assessment (Journal of Laws of 2016 Item 1968).

Technical and construction regulations and conditions
• Regulation of the Minister of Infrastructure of 12 April 2002 on technical conditions to be satisfied by buildings and their location (Journal of Laws of 2015 Item 1422).

• Regulation of the Minister of Economy of 26 April 2013 on technical conditions to be satisfied by gas networks and their location (Journal of Laws of 2013 Item 640).
• Regulation of the Minister of Transport and Maritime Management of 10 September 1998 on technical conditions to be satisfied by railway structures and their location (Journal of Laws of 1998 No 151 Item 987).
• Regulation of the Minister of Infrastructure of 25 June 2003 on the method of notifying and marking air obstacles (Journal of Laws of 2003 No 130 Item 1193).
• Regulation of the Minister of Transport and Maritime Management of 2 March 1999 on technical conditions to be satisfied by public roads and their location (Journal of Laws of 2016, Item 124).
• Regulation of the Minister of Economy of 21 October 2008 on essential requirements for machines (Journal of Laws of 2008 No 199 Item 1228).

Major directives:
• Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machines.
• Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits.

Equipment and facilities subject to technical supervision
• Regulation of the Council of Ministers of 7 December 2012 on types of technical facilities subject to technical supervision (Journal of Laws of 2012 Item 1468)
• Regulation of the Minister of Economy, Labour and Social Policy of 9 July 2003 on technical conditions of technical supervision in respect of operation of certain pressure equipment (Journal of Laws of 2003 No 135 Item 1269).
• Regulation of the Minister of Economy, Labour and Social Policy of 29 October 2003 on technical conditions of technical supervision in respect of operation of certain handling equipment (Journal of Laws of 2003 No 193 Item 1890).

Regulations on harmonised standards:
• The Act of 12 September 2002 about standardisation (Journal of Laws of 2015 Item 1483).
• Announcement of the Chairman of the Polish Committee for Standardisation of 30 July 2012 on the list of harmonised standards M.P.2012.612

• Regulation of the Council of Ministers of 23 December 2002 on the manner of operation of the national system of notification of standards and legal acts. (Journal of Laws of 2002 No 239 Item 2039).

Occupational health and safety:
• Regulation of the Minister of Labour and Social Policy of 26 September 1997 concerning the general occupational safety and health provisions (Journal of Laws of 2003 No 169 Item 1650).
• Regulation of the Minister of Infrastructure of 23 June 2003 on information related to health and safety, and health and safety plan (Journal of Laws of 2003, No 120, Item 1126).
• Regulation of the Minister of Infrastructure of 6 February 2003 concerning occupational safety and health during construction works (Journal of Laws of 2003 No 47 Item 401).
• Regulation of the Minister of Economy of 20 September 2001 concerning occupational safety and health during operation of machines and other technical equipment for ground, construction and road works (Journal of Laws of 2001 No 118 Item 1263).
• Regulation of the Minister of Economy of 28 March 2013 concerning occupational safety and health during work with power equipment (Journal of Laws of 2013 Item 492).
• Regulation of the Minister of Economy of 8 July 2010 on minimum requirements for occupational safety and health related to the possibility of occurrence of explosive atmosphere at the workplace (Journal of Laws of 2010 No 138 Item 931).
• Regulation of the Minister of Economy of 14 July 2010 on occupational safety and health in the iron and steel industry (Journal of Laws of 2010 No 142 Item 951).

Fire protection
• The Fire Protection Act of 24 August 1991 (Journal of Laws of 2017 Item 736)
• Regulation of the Minister of Internal Affairs and Administration of 2 December 2015 on approval of a construction design in terms of fire safety (Journal of Laws of 2015 Item 2117)

• Regulation of the Minister of Internal Affairs and Administration of 7 June 2010 on fire safety of buildings, other construction facilities and premises (Journal of Laws of 2010 No 109, Item 719).
• Regulation of the Minister of Internal Affairs and Administration of 24 July 2009 on fire fighting water supply and fire roads (Journal of Laws of 2009 No 124 Item 1030).

Sanitary regulations
• The Act of 14 March 1985 on State Sanitary Inspection (Journal of Laws of 2017 Item 1261).
• Regulation of the Minister of Health of 29 November 2002 on experts of sanitation and hygiene (Journal of Laws of 2002 No 210 Item 1792).

Environmental protection
• The Act of 27 April 2001 - Environmental Law (Journal of Laws of 2017, item 519)
• The Act of 3 October 2008 on the provision of information on the environment and its protection, public participation in environmental protection and environmental impact assessments (Journal of Laws of 2017 Item 1405).
• The Act of 14 December 2012 on waste (Journal of Laws of 2016 Item 1987).
• Regulation of the Council of Ministers of 9 November 2010 on projects which may materially impact the environment (Journal of Laws of 2016 Item 71)
• Regulation of the Minister of Environment of 14 June 2007 on permissible level of noise in the environment (Journal of Laws of 2014, item 112)
• Regulation of the Minister of Environment of 2 July 2010 on situations where no permit is required to discharge gases or dusts to the atmosphere (Journal of Laws of 2010 No 130 Item 881).

Management systems and standards
• Occupational Health and Safety Management System BS OHSAS 18001:2007 / PN-N-18001:2004.
• Environmental Management System EN ISO 14001: 2015
• Energy Management System EN ISO 50001: 2011
• Quality Management System ISO 9001: 2015
• Quality management standard for the automotive industry IATF 16949: 2016

Other

• The Personal Data Protection Act of 29 August 1997 (Journal of Laws of 2016 Item 922).
• The Act of 13 April 2016 on conformity assessment systems and market supervision (Journal of Laws of 2017, item 1398).
• The Act of 4 February 1994 on copyright and related rights (Journal of Laws of 2017 Item 880).

International technical standards:

CEN European Committee for Standardization;
CENELEC European Committee for Electrotechnical Standardization;
DIN Deutsche Industrie Normen;
EN European Standard;
ETSI European Telecommunications Standards Institute;
ISO International Organization for Standarization;
PN Polish Norms;

Should discrepancies occur between PN standards and the above mentioned ones, the stricter standards shall apply.

The bidder is required to familiarise with the standards of ArcelorMittal Poland S.A. in respect OHS rules and performance standards which shall be observed by the contractor at all times.

Appendix no 3: File formats for the documentation - standard acc. to ArcelorMittal Poland S.A.

1. Documents: *.doc, *.pdf, *.xls (Microsoft Word 2010, Microsoft Excel 2010, Adobe Reader)
2. Schedules: *.mpp (Microsoft Project 2010)
3. Mechanical documentation: *.dwg, *.dwf (AutoCAD ver. 13 or higher, Autodesk Design Review) , *.pdf
4. Electrical documentation: *.zw1 (EPlan P8); *.dwg ; *.pdf
5. Picture, figures: *.jpg

Appendix no 4: LOTO system

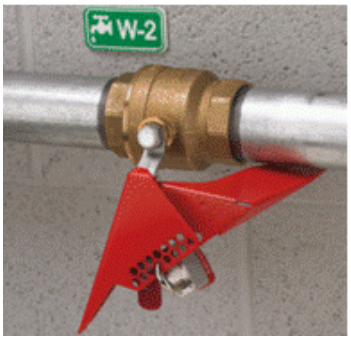
The Lockout Tagout System LOTO is used by Maintenance Workers to protect machines during maintenance and maintenance of machines against unauthorized use by unauthorized persons.

a) List of equipment and padlocks used in our Plant:

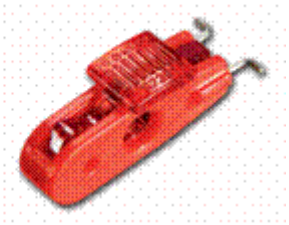
- We use two types of padlocks with a Ø brace according to the Master Lock catalog of 6 mm (in fact 4,762 mm - 3/16 ") and Brady Ø according to the 6.5 mm (in fact 6.35 mm - 1/4")

- Lock for locking small ball valves in open or closed position 1/2 "- 2" (12.7 mm - 50.8 mm)

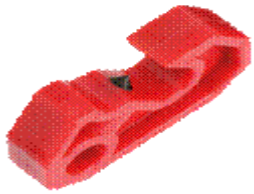
- Valve lock with knob Ø 2,71-8,12 cm, Ø 5,41 - 13,54 cm, Ø 10,83 - 17,6 cm, Ø 16,24 - 27,07 cm, Ø 21,66 - 35.19 cm (-47°C to + 177°C)



- Ball valve lock / hole Ø 30 mm



- Miniature circuit breakers with switch hole Ø> 11 mm and Ø <11mm



- Button / control switch or rotary switch with a diameter of 22.5-30.5 mm

- Automatic circuit breaker adjustable for long and wide switch levers

- Steel lock with vinyl coating - inner shaker 25 mm / plastic locking shackle 60 mm x 25 mm

Appendix no 5: VISUAL MANAGEMENT

Visual management is a series of practices that make it possible for a plant to work faster, more efficiently and more safely, and that maintenance work can be more efficient.
Visual management elements that should be applied to the device and in its area:
Numbering, visualization of equipment review points for the Autonomous Maintenance Group (according to the AUR review checklist),
Designation of the piping system and piping with the appropriate color,
Description of the installation and piping referring to the transported medium and direction of flow, Note - All descriptions on the device must be in Polish,
Marking of LOTO energy cut-off points, accessories for attaching locks,
Marking of working ranges of manometers, direction of rotation of electrical machines, oil levels in tanks.
Marking of grease and oil dispensing points according to the Standards and OPLs used in the Plant,
Marking of electrical equipment, cables and wires, terminal strips,
Descriptions of desktops, buttons, control lights - metal, engraved,
Marking open closed valves,
Marking of moving and protruding elements of equipment, guards and barriers,
Marking of pedestrian route according to the marking system used on the Plant
Railing of hazard zones and placement of warnings signs.
Platforms and covers, well fitting, adhering, secured against moving,with information about the maximum load capacity.

Piping system designation in color depending on the medium being transported:
Air - bright blue
Gases (natural gas, coke oven gas, argon) - yellow
Oxygen - white
Compressed air - gray
Water - green
Oils and flammable liquids (hydraulic oil) - brown
Acids and bases - purple
Other liquids - black



Description in Polish of the installation and piping of the conveyed medium and flow direction in accordance with the following examples:

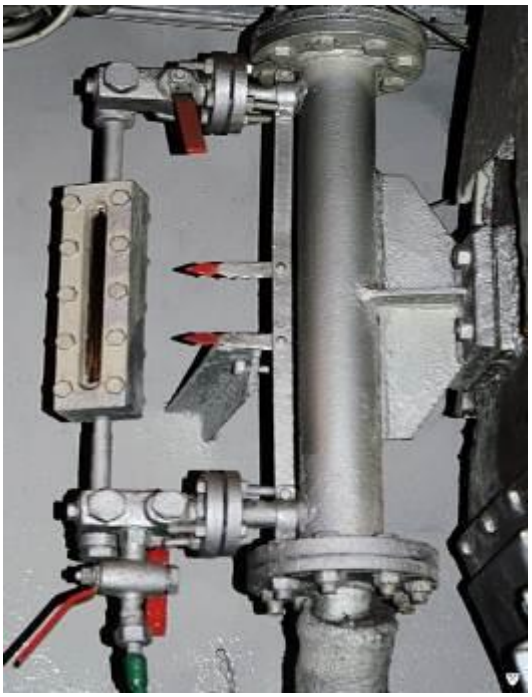
Marking of LOTO energy cut-off points and accessories for locking devices.

Marking of working ranges of manometers, direction of rotation of electrical machines, oil levels in tanks.

Marked working range

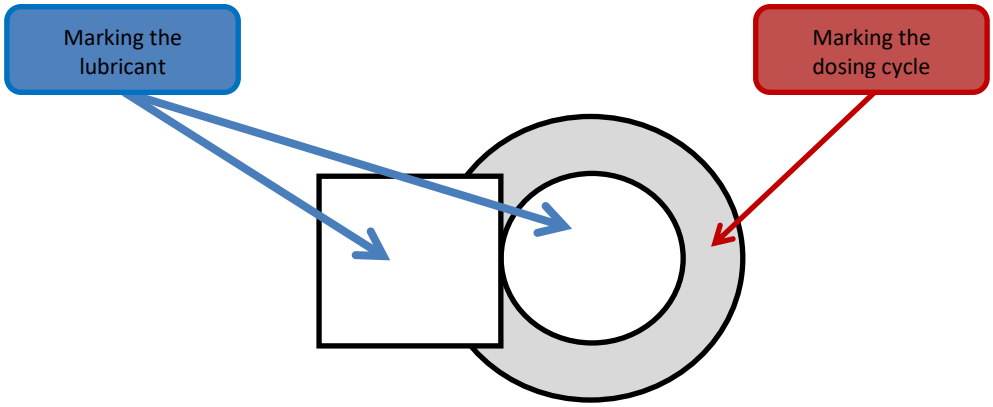
Marked direction of rotation

Optimal oil level range marked.

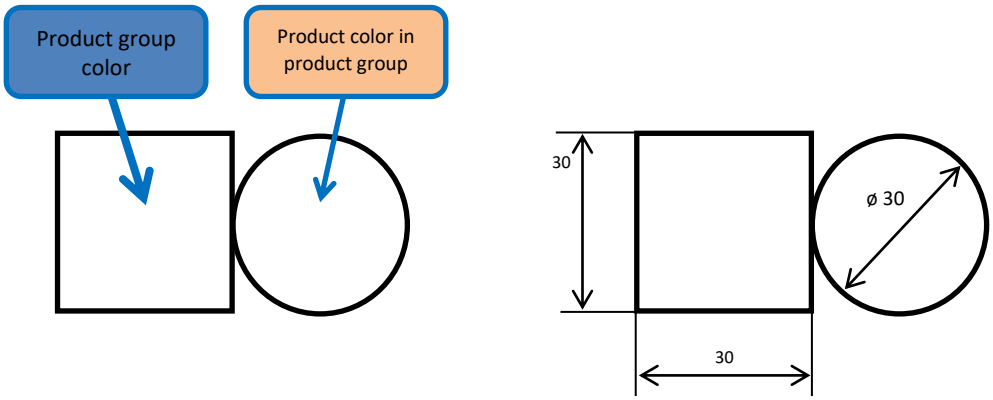


Marking of grease and oil dispensing points (on tanks, pumps, grease injection points, etc.)

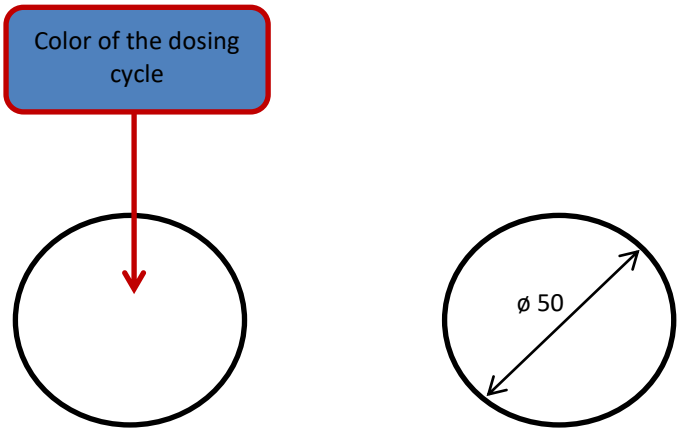
Marking pattern



Details of lubricant labeling



Marking the dosing cycle



Marking of lubricant and oil dosing points.
The colors of the individual markings will be assigned to the metering points after receiving the exact specification of the device

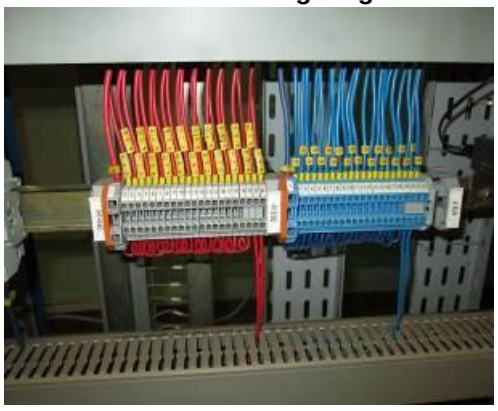
Examples of lubricant markings

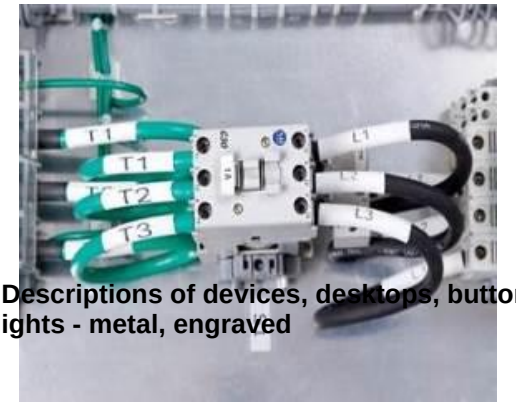
Lubricant product	Sign and color of lubricant product
Hydraulic oil Renosafe DU 46	black (#000000) -white (#FFFFFF)
Hydraulic oil QuIntolubric 888-68	black (#000000) - blue (#0000FF)
Gear oil Mobilgear 600 XP 100	red (#FF0000) - yellow (#FFFF00)
Gear oil Mibilgear 600 XP 220	red (#FF0000) - red (#FF0000)

Examples of dosing cycles

Name of the cycle	Designation and color of the cycle
every 1 week	green (#008000)
every 1 month	white (#FFFFFF)
every 3 month	red (#FF0000)

Marking of electrical appliances, cables and wires, terminal strips and blocks according to the indications in the wiring diagrams:





Descriptions of devices, desktops, buttons, control lights - metal, engraved

Protection of devices against unauthorized activation (for example key switch etc.)

Marking of moving and protruding elements of equipment, shelter and barriers.

Railing of security zones and placement of warnings signs.



Platforms and covers, well fitting, adhering, secured against moving, with information about the maximum load capacity

Appendix no 6: Spare parts list

No	Pozycja, numer katalogowy / Position, manufacture part no.	Ilość / QTY	Częstotliwość wymiany / changing period	Cena / Price
1.				
2.				
3.				
4.				
5.				

Appendix no 7: Standardization requirements on HSM regarding electricity and automation

1. It is necessary to ensure proper ergonomics of devices and elements, so that they are comfortable to use, they do not cause the risk of accidental switching on and off the circuits. Devices should be adapted to use of LOTO equipment.

a. 2. Automation department standards – AIM Addendum to tender - Video Monitoring System requirements ENV04 and AIM Addendum to tender - Automation system requirements ENV12

2. Hydraulic system requirements:

a. Prefered supplier for hydraulic components – Bosch Rexroth, Parker (or equivalent)

b. Installation should be designed according to the climate and conditions specified in this document – appendix no1

3. Pneumatic system requirements:

Solutions based on Kaeser (or equivalent) are preferred.