GENERAL TERMS AND CONDITIONS

for the production, sale and acceptance of cast iron and spheroidal graphite castings

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1. Subject of the General Terms and Conditions

These General Terms and Conditions (GTC) are derived from the General Terms and Conditions of the Association of European Foundry Associations. They determine the rights and obligations of the foundry and the client in connection with contracts for the production and sale of castings made of flake graphite cast iron according to ČSN EN 1561 and spheroidal graphite cast iron according to ČSN EN 1563 manufactured and supplied by TOS - MET Foundry a.s. (hereinafter referred to as the "foundry") and related materials, consultancy, services and other works that the foundry can do for the client.

2. Scope of the General Terms and Conditions

These GTC are valid both for the bidding and bidding process and for the production, delivery and testing of castings on the basis of duly concluded contracts.
All other sounding conditions of the client - in whatever form - become invalid if their wording is not acknowledged in writing by the foundry.
These GTC shall be valid unless otherwise agreed between the Parties expressly and in writing, and shall prevail over any other arrangement.

3. Technical conditions of supply and quality control

3.1 Terms and definitions, normative references

3.1.1 Control casting

Castings or castings produced prior to commencement of normal production (so-called master casting) for size and quality control.

3.1.2 Sample casting

It is a casting manufactured using the same equipment and procedures as the series castings.

3.1.3 Test casting

Casting that corresponds to a wide range of sample castings but is not or is only partially manufactured using the same equipment and process.

3.1.4 Rough casting

Casting which has not undergone final processing after casting, except for the removal of foundry additives such as gates, risers and leaks, and removal of molding material residues if necessary.

3.1.5 Finished casting

Casting made according to delivery requirements.

3.1.6 Rough casting

It is produced from the finished casting by removing part of the machining allowance.

3.1.7 Machined casting

It is produced from a finished or roughed cast by machining to the dimensions prescribed in the part drawing.

3.1.8 Casting weight

The weight of the individual casting, corresponding to the shape, dimensions and material, to the data on a double-sided casting drawing or foundry process drawing. It is determined as the average weight of a pre-agreed casting group or as the weight of an approved sample casting.

3.1.9 Smelt down

Amount of metal for casting, melted in a single furnace and discharged into one ladle.

3.1.10 Definition of surfaces

Functional area with special requirements for surface quality, surface and concealed defects (areas that are grinded, hardened after machining, for example, there is a special requirement for impermeability, etc.); other surface with common defect requirements and casting surface with indication of the place for clamping the casting for machining (non-functional machined surfaces, rough casting surface).

3.1.11 Control

Activities such as measurement, visual inspection, testing (non-destructive testing, etc.) of one or more characteristics of a product or service and their comparison with prescribed compliance requirements.

3.1.12 Overview of related standards and regulations

ČSN EN 1559-1 Foundry - technical delivery conditions
ČSN EN 1561 Cast iron with flake graphite
CSN EN 1563 Spheroidal graphite cast iron
ISO 8062-3 Geometrical product specifications (GPS) - Dimensional and geometric tolerances of molded parts - Part 3: General dimensional and geometric tolerances and machining allowances for castings
CSN EN 12890 Foundry - Models, model accessories and core boxes for the production of sand molds and cores
CSN EN 10204 Metal products - Types of inspection documents
CSN EN 12680-3 Foundry - Ultrasonic testing - Part 3: Spheroidal graphite cast iron
CSN EN ISO 6506-1 Metallic materials - Brinell hardness test - Part 1: Test method
ISO 148-1 Metallic materials - Charpy impact test - Part 1: Test method
CSN EN 10002-1 Metallic materials - Tensile testing - Part 1: Ambient temperature test method
ČSN 42 0461 Evaluation of metallographic structure of cast iron

3.2 Terms & Conditions

3.2.1 Data provided by the customer

The customer is obliged to state the name of the casting, the number of castings stating the quantity tolerance and delivery date, price, material prescription, valid drawing (digital data), casting marking, requirements concerning internal and external casting quality according to defined areas, for machining, heat treatment requirements, casting weight, method and scope of testing including intervals, type of accompanying documents, method of surface protection and casting packaging, authorized repairs.

3.2.2 Documentation

The production documentation, if provided by the customer for the casting, remains the property of the customer.

Any changes in the drawing documentation that may affect the production of castings must be sent to the foundry for approval if they do not necessitate modification of the model equipment or its new production.

3.2.3 Model equipment

a) All models and production tools (models, core boxes, templates, gauges, gauges, processing and inspection equipment, etc.) supplied by the customer must be clearly marked for assembly and use and must be delivered free of charge to the site designated by the foundry. The client assumes responsibility for the exact conformity of these production equipment with the plans and the catalog of technical requirements. However, at the customer's request, the foundry carries out a conformity test and reserves the right to charge for this service. At the same time, the customer is obliged to announce the number of molded pieces on the delivered model equipment.

If the foundry deems it necessary for technological reasons to make changes to the supplied model equipment in order to make castings of good quality, all the resulting costs shall be borne by the

customer if it has been informed in advance in writing. In general and without prior written agreement with the customer, the foundry does not guarantee the lifetime of production equipment. In principle, however, the lifetime of the model equipment depends on the design according to EN 12890 - wood H1, H2, H3; metal M1, M2; plastic K1, K2

If the production equipment is delivered by the customer together with plans and a catalog of technical requirements that do not allow a perfect check of conformity between different elements, then the molds, dimensions and wall thicknesses are determined entirely or partially by these production equipment. The responsibility for the result on the basis of these data lies solely with the client, which the foundry informed in writing in advance.

In all cases where the foundry's production facilities do not meet the intended use as the founder's legitimate expectations, the foundry may require the original price of the casting to be changed to the new conditions, and the client must agree before producing the castings.

b) If the founder is authorized by the client to produce models or production equipment, the foundry shall do so in accordance with the client according to the requirements of its own production technology. The cost of production, replacement or repair in case of wear of the models and production equipment must be paid for in the foundry independently of the casting delivery. The foundry cannot assume the cost of reimbursing only once applicable models that become unusable in the event of rejection as part of the normal manufacturing process. If there is no agreement with the foundry on a price surcharge to cover this risk, the client is obliged either to provide new production equipment as a replacement or to pay the foundry for production.

c) Models, tools and technological drawings are the property of the foundry, provided that the contract stipulates that the client pays only one contribution to the cost of the models and tools. This post is indicated on a separate invoice. Otherwise, the models and tools are the property of the ordering party and will be deposited in the foundry for consideration after execution of the order. It must be returned to the customer at the customer's request, and must also be returned to the foundry at the stage of wear and obsolescence that they exhibited at the time of return. However, these models and tools cannot be transferred to the client's assets until the client has paid all open invoices to the foundry, including the study invoices, patents and know-how referred to in Article b). Tools / models will be stored free of charge for one year from the date of last delivery. After that date they shall be provided to the Client or their storage for consideration shall be discussed, without prejudice to the right of retention referred to in the preceding paragraph. In the absence of an agreement, the foundry may either dispose of the instrument or charge the deposit after the three-month period has elapsed from the written notification or return the instruments for consideration.

d) The foundry undertakes not to use the production facilities referred to in paragraphs (a), (b) and (c) above without the prior written consent of the client for third party contracts, regardless of whether the foundry is the owner of these tools.

e) The Client bears full responsibility for the models and production equipment referred to in paragraphs (a), (b) and (c) of which it is the owner and is obliged to insure them in case of damage and destruction in the foundry and not to require fulfillment of this obligation at the foundry.

f) The parts supplied by the customer for casting are subject only and exclusively to its responsibility and must be in perfect condition. The foundry must be delivered free of charge and paid for, excluding normal production risks and in sufficient quantity.

3.3 The technical requirements

3.3.1 Chemical composition

The method of manufacture and chemical composition of the material is chosen by the manufacturer unless otherwise stated in the relevant material standards or directly determined by the customer.

When taking a sample for chemical control analysis from the test piece or directly from the casting, the prescribed range of individual elements for phosphorus is increased by 15%, for sulfur by 10%, for other elements the deviations are determined by agreement.

3.3.2 Mechanical properties

The values of mechanical and other properties are adjusted in the relevant material standards.

Hardness is tested in accordance with ČSN EN ISO 6506-1, notch toughness according to ČSN ISO 148-1, Metallographic analysis according to ČSN 42 0461.

Hardness is tested on a sample and its value is determined as the average of the results of three tests. If the hardness test of the casting is required, the test location, the required hardness values and the required hardness values are determined. i the method of measurement by agreement; the casting crust must be removed at the inspected site before measurement. The conditions of the strength and impermeability test shall be agreed contractually.

3.3.3 External and internal quality

3.3.3.1 General conditions

The castings must not show surface and internal defects to the extent that their use and machining in fixtures would be impeded.

Any defects (sealant, preservation, metallization, etc.) may be covered only after prior agreement with the customer. In assessing these cases, the manufacturer is guided by the intended use of the casting.

When ordering castings with uneven wall thickness or castings of massive or otherwise technologically demanding, the customer must take into account the occurrence of original defects (valuations, structural and chemical heterogeneity, inclusions, thinners in the place of the thermal axis). The admissible quantity and size of defects shall be governed by these TPDs, unless otherwise agreed by contract.

3.3.3.2 Surface roughness

Castings are supplied with a surface roughness given by the method of their production. If the customer requires a certain roughness of the casting surface, the roughness level must be agreed in advance.

Remnants of risers and birds are removed on untreated surfaces and adjusted to a height not exceeding the values given in ČSN EN 8062.

Surface roughness is evaluated according to ČSN EN 1370 (Foundry Evaluation of surface roughness visually by means of comparative standards) by means of SCRATA standards, comparators A, H.

The manufacturer guarantees the surface roughness in the following steps:

Category	**Required degree of standards**
Surface after blasting	A 2
Surface after mechanical treatment	H 3

3.3.3.3 Surface quality

Surface quality is evaluated according to ČSN EN 12454 (Foundry - visual inspection of surface defects - Steel castings cast into sand molds), using standards SCRATA - comparators B, C, D, E, F, J.

The manufacturer guarantees surface quality in the following stages:

Category	**Required degree of standards**
Non-metallic inclusions	B 4
Bubbles	C 3
Cold lap	D 2
Scab	E 3

Metal inclusions	F 1
Welds	J 2
Supports	F 2

Testing of surface defects is performed only if stated in the order, resp. on the drawing. The test areas shall be marked on the drawing.
Requirements for further tests and possibly other (different) requirements for surface quality must be stated in the order, resp. on the drawing.

3.3.3.4 Internal defects

The foundry guarantees the production of castings without serious internal defects such as bubbles, sand and slag inclusions, shrinkage, cracks, cracks and metal inclusions that would be detrimental to the usability of the casting.
In the case of special requirements, the customer is obliged to define the defects and their occurrence depending on the specifically designated area according to TDP.
Testing of internal defects is performed only on the basis of an order. The test areas shall be marked on the drawing.

3.3.3.5 Definition of type, number, location and size of defects

Acceptable defects include crumbs, bubbles, shrinkage, thinners, cracks, flaking and metal inclusions, the size, quantity and occurrence of which are governed by the following table:

Degree of difficulty of the area	**Max. defect size Ø (mm)**	**Max. amount of defects per 1 dm²**	**Max. number of defects per 1 m²**
Functional area	1,5	2	3
Other area	4	3	6

On spheroidal graphite cast iron castings, the “orange skin” defect is permissible, covering up to 30% of the total surface of the casting, but must not overlap the defects that would reduce the mechanical properties of the casting.
The depth of tolerable defects is up to 20% of the thickness of the casting wall, but max. 5mm.
The permissible defects must be clean and smooth, without molding compound and slag.

3.3.4 Casting design

Castings are offered, manufactured and delivered to the following accuracy:
- machine molding (castings up to 100kg) - CT10 and above
- manual molding - medium mold (castings from 100kg to 1500kg) - CT 11 and higher
- manual molding - heavy molding (castings from 1500kg to 12500kg) - CT 13 and higher.

A double-sided approved drawing or foundry process drawing is decisive for checking the shape, dimensions and weight of castings.
For the size deviations of the dimensions of castings, the provisions of ČSN EN 8062, including machining allowances and pre-cast holes, for foundry bevels of models and castings apply.

3.3.5 Repairs of castings

Repairs of inadmissible casting defects are carried out after agreement with the customer.
Inadmissible defects can be repaired by welding according to valid technological regulations or by using repair mastic.

3.3.6 Heat treatment

The necessity and method of heat treatment of castings shall be determined by the customer.
Heat treatment is carried out on the basis of a customer order.

3.3.7 Casting weight

The actual weight of a single rough casting does not differ from the guide weight by more than the following deviations:

Guide weight (kg)	**Production**	
	Serial	**Piece**

to 10	by appointment	
10 – 160	+ 6,0 % - 2,0 %	+ 7,0 % - 3,0 %
160 – 1000	+ 6,5 % - 2,5 %	+ 7,0 % - 2,0 %
over 1000		+ 6,0 % - 2,0

3.3.8 Marking of castings

For the later identification of the origin of the castings, the foundry bears the castings with its mark, except for those where the placement of the mark, the logo is impracticable or where the customer has explicitly requested the delivery of unlabeled castings. The brand location is chosen by the manufacturer.

Castings are marked with model number, which is plastic or recessed according to customer's specification. Castings from medium and heavy molding are marked with casting number, castings from machine molding are marked with casting number only if they are made of ductile cast iron.

3.4 Test methods and testing

3.4.1 Sample castings

The foundry normally supplies the following number of sample castings:

- castings from the machine shop - 3 frames (the number of pieces depends on the number of castings in the frame)
- castings from middle molding shop - 2 pieces
- castings from heavy molding - 1 piece

A different amount of sample castings may be agreed.

Sample castings are used for dimensional inspection and internal quality control. Sample castings cannot be claimed unless there is an obvious defect caused by the manufacturer.

The customer is obliged to approve the sample castings for series production within 3 months from the delivery of the castings.

3.4.2 Testing

The foundry performs non-destructive tests for consideration:

- Ultrasonic test according to EN 12680-3 (Foundry - Ultrasonic testing - Part 3: Castings with spheroidal graphite)
- capillary test according to EN 1371-1 (Foundry - Capillary testing - Part 1: Sand castings gravitationally and under low pressure).

The foundry provides external non-destructive testing:

- Radiographic test according to ČSN EN 12681 (Foundry - Radiographic testing)
- magnetic powder method according to ČSN EN 1369 (Foundry - Testing of castings by magnetic powder method)

4. Ordering and delivery, quality control

4.1 Ordering of castings

a) The tender or order by the client must be accompanied by a list of requirements (technical specifications) specifying the manufactured pieces in every respect, including the type and extent of the inspections, inspections and tests required to accept the order. The tender, order and technical specifications must be submitted in writing.

b) The foundry's offer cannot be considered binding unless it is expressly declared binding for a certain period. This also applies to all cases where the customer makes changes in the technical conditions or on the test specimens provided by the supplier.

c) The foundry is bound only by expressly accepting the binding order of the client in the form of a written confirmation or other means of communication with the validity of the binding document.

d) The Client is not entitled to cancel orders. If it violates this provision, it is obliged to pay the foundry all costs incurred up to the time of cancellation, all work performed, lost profit and compensate the foundry for all direct and indirect consequences of the cancellation in general.

If an open order does not include only planned, non-binding quantities, but also binding deliveries, the cancellation applies not only to the quantities ordered but also to those whose production had already commenced at the time of cancellation in order to meet the customer's regular production requirements. product cycle.

e) The Client is not entitled to request a deferment without the consent of the other party with respect to the execution or dispatch of the order. Should such a delay be agreed with the foundry, the customer is obliged to pay all costs incurred in this connection (storage, financing, administration fees, etc.). These costs are due immediately upon receipt of the relevant invoice.

For such delayed products it is necessary to pay the originally agreed price. If prices have increased after the originally agreed delivery date, the price conditions valid at the time of actual delivery of the products shall apply.

The transfer of all castings produced in accordance with these GTC shall be governed by the following rules:

- the place of delivery of the castings is the manufacturer's premises
- the cost of transport and possible mechanical processing (roughing, final machining) shall be borne by the customer in the event that it is accepted by the customer during the acceptance
- additional costs associated with the agreed repair of casting defects before acceptance of the casting by the customer, unless otherwise agreed, shall be borne by the manufacturer
- if the casting is not taken over due to deviations from the prescribed quality, the customer is obliged to inform the manufacturer within the standard deadlines for the complaint procedure, while the storage costs are borne by the customer, the customer is obliged to store the unused part so as defects)
- castings produced on the BMD molding line are supplied with the following quantity tolerances: castings weighing <25 kg + 10%; castings from 25 to 100 kg + 5%; with the principle that min the number of castings delivered depends on the number of models on the plate

4.2 Shipping times

a) Delivery times start from the date of confirmation of the order by the foundry, however, at the earliest from the date on which the Client provided all documents, production equipment and execution details, and the Client must also fulfill all other predetermined conditions.

b) The binding nature of the delivery time must be specified in the contract in terms of its type and scope (ready for shipment, date of entry check, date of actual shipment, etc.). Without such specification, the delivery date is only an indication.

c) If the delivery is delayed beyond the agreed delivery date and if contractual penalties are agreed in a special agreement, the contractual penalty shall in no case exceed 5% of the value of the contract (after deduction of taxes) of the parts delivered late. The customer may demand payment of a contractual penalty if he can prove that the delay was caused by the foundry. If such proof can be provided, the contractual penalty calculated in the manner described above shall be payable only up to the amount of damage incurred by the customer as agreed by both parties. If, however, the actual loss suffered by the customer exceeds the maximum amount calculated as described above, the customer has no further regression claim other than the stated total amount, which represents the maximum, inclusive and definitive assessment of that damage.

4.3. Documents

Test report (certificate) - the manufacturer confirms that the castings are in accordance with the requirements of orders, the certificate is issued free of charge

Inspection Certificate 3.1 - The manufacturer confirms that the castings are in accordance with the requirements of the order and provides specific test results. This certificate is produced and issued for a fee.

Dimensional report - foundry presents found dimensions according to customer's request. The report is usually issued when a control casting is delivered from a new or modified model equipment. The report is produced and issued for a fee.

4.3 Packaging and surface protection

Coloring of castings is performed only on the basis of order according to drawing or other specification. As a standard, the castings are primed with RAL 0110.

The castings are standardly placed on pallets and wrapped with foil, or they are attached to the pallet with tape. Requirements outside this standard shall be communicated by the customer during the bidding process.

At the request of the client against payment can be

5. Guarantees, claims

5.1 Complaints period

The customer has the right to claim obvious defects within 10 days of delivery of the products. Hidden defects can be claimed by the customer within 6 months from the date of delivery.

5.2 Materials

The basis for handling the complaint is a written report by e-mail or post with accurate identification of the claimed products (order no., Delivery note no., Number of pieces, model no., Melting order number, etc.) and exact defect specification sent in 3D or 8D. report.

The report shall include a sketch or photographic documentation.

5.3 Ways of resolving complaints

The manufacturer may, in agreement with the customer, replace defective goods, repair or arrange repair within a reasonable time or provide a discount.

According to the foundry requirements, the customer will ensure the return of defective products. The casting must be preserved and packed in such a way that the claimed defect can be evaluated after returning the castings, otherwise the complaint will be rejected.

If the foundry does not accept the customer's claim, the customer is obliged to reimburse the manufacturer for all costs associated with handling such a claim.

5.4 Costs

If a repair is necessary by the customer, the repair, its scope and the cost of it must be approved in advance by the manufacturer.

The resulting, demonstrably spent work outside the budget (extra work) will be charged upon prior written agreement with the manufacturer. If the hidden defect is uncovered during one of several machining operations, the machine operator is obliged to stop further operations. Failure to do so will result in the manufacturer not accepting extra work involved in machining.

The foundry will pay the agreed additional costs up to the maximum amount corresponding to the price of the claimed casting.

5.5 Responsibility for defects

Liability for defects does not arise if these defects were caused by external events, fault by the customer or the carrier and were not caused by the manufacturer or persons with whom the foundry fulfilled its obligation.

6/ Dispute resolution and jurisdiction

6.1. Conflict solving

The Contracting Parties confirm that any discrepancies arising from the interpretation of these General Terms and Conditions shall be settled amicably and shall endeavor to resolve all disputes by mutual agreement. If an amicable settlement is not reached and the relevant settlement agreement reached no later than 60 working days after receipt of the registered letter with acknowledgment of the existence of a difference of opinion by the party concerned, the amicable settlement shall be deemed to have failed and the party may claim 6.2.

6.2. Jurisdiction and law

All other relations between the foundry and the customer not dealt with by these General Terms and Conditions are governed by the relevant provisions of the Civil Code of the Czech Republic in the wording valid as of 1.1.2015.

To resolve any discrepancies between the two parties which cannot be resolved amicably under paragraph 6.1. the competent court in the place of the foundry seat

6.3. Salvator clause

If any obligation arising from these GTCs but not constituting their essential particulars is or becomes invalid or unenforceable in whole or in part, it is fully severable from the other provisions of these GTC and such nullity or unenforceability shall have no effect on the validity and enforceability of any other of these GTC. Within the framework of these GTC, the Parties undertake to replace this invalid or unenforceable segregated liability with a new valid and enforceable liability, the subject matter of which will correspond as far as possible to the original segregated liability. However, if any obligation arising from these GTC and constituting its Essential Requirement is, or whenever becomes invalid or unenforceable in whole or in part, the Parties shall replace the invalid or unenforceable obligation under the new agreement with such new valid and enforceable liability, the scope of the original obligation contained in these GTC.