# Annex No. 5 to the Tender Documentation – Technical Conditions

**“ALFAGEN - EQUIPMENT FOR CASTING STRIPS FROM ALUMINIUM AND ITS ALLOYS”**

Under these Technical Conditions, the Contracting Authority specifies the characteristics of the requested subject of fulfilment, i.e. the **minimum** technical requirements that the contractor’s subject of fulfilment needs to meet. If a contractor offers a subject of fulfilment that does not meet any of the technical conditions, it shall be excluded from the tender on account of not meeting the tender conditions.

In the forms of the “Technical Conditions” below, the participant shall specify whether the subject of fulfilment offered by the contractor meets the requirements specified in the columns – in the “Compliant” column, the contractor shall tick off the applicable option: “Yes” if the fulfilment meets the requirement, “No” if the fulfilment does not meet the requirement. If the participant selects “No” in the “Technical Conditions” at least in one case, they shall be excluded from the procurement procedure on account of non-compliance. If the participant specifies “Yes” but the tender evaluation reveals that the fulfilment does not meet the requirement, the participant may be excluded on account of non-compliance and a breach of the tender conditions. If the participant does not specify “Yes” nor “No”, they may be excluded for non-compliance with the tender conditions. In the “Contractor’s offer” column, the contractor shall specify via the Word fill-in forms the particular parameter value (in the same units as those of the requirement) or a more detailed specification of the fulfilment offered by the Contractor in relation to the requirement. If the participant does not fill in the “Contractor’s offer” column and indicates “Yes” in the “Compliant” column, the fulfilment offered by the participant shall be deemed to be compliant with the Contracting Authority’s requirement specified in the “Parameters” column. The participant shall fill in the “Technical Conditions” according to the instructions specified therein, including the kind and type of fulfilment, if any. The contractor is obliged to fill in the kinds and types of fulfilment and include it as an annex to the Contract for Work, i.e. the contractor shall be obliged to deliver the exact same fulfilment it made a commitment to deliver in its tender.

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| **Metal distribution system** | |  |
|  | **Compliant** | **Contractor’s offer** |
| Automatic start of casting (from holding furnace T.O.P. up to TRC stand) | YES / NO |  |

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| **Grain refining system** | |  |
|  | **Compliant** | **Contractor’s offer** |
| Rod feed speed (0,15 – 3 m/min) | YES / NO |  |
| Tolerance of rod feed speed ±0,01 m/min | YES / NO |  |

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| **Degassing** | |  |
|  | **Compliant** | **Contractor’s offer** |
| Seventy-Five (75%) percent efficiency down to a lower limit of: ≤0.13 cc/100 gr. for alloys contain ≤ 1% Mg and ≤0.13 cc/100 gr. for alloys containing > 1% Mg | YES / NO |  |

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| **High performance filter** | |  |
|  | **Compliant** | **Contractor’s offer** |
| 98 % reduction of 20 µ inclusions | YES / NO |  |
| 85 % reduction of 10 µ inclusions | YES / NO |  |

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| **Tip and headbox** | |  |
|  | **Compliant** | **Contractor’s offer** |
| Quick change of tip including headbox | YES / NO |  |
| Tip lifetime in continuous casting operation – minimum 14 days | YES / NO |  |
| Servo positioning system accuracy 0,005 mm | YES / NO |  |
| Acceptable level of deviation in headbox is ± 0,2 mm over a time of 10 minutes | YES / NO |  |

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| **Twin Roll Casting HGC** | |  |
|  | **Compliant** | **Contractor’s offer** |
| The twin roll casting technology is horizontal | YES / NO |  |
| Estimated annual capacity for four lines – 45 kT/year, considering 6804 net productive hours | YES / NO |  |
| Casting thickness of the strip: min. range 4-8 mm | YES / NO |  |
| Casting width of the strip: 1000 - 1450 mm | YES / NO |  |
| Estimated capacity of casting 1,2 – 2,3 t/hour (depending on alloy and thickness) | YES / NO |  |
| Hydraulic gauge control | YES / NO |  |
| Roll shell diameter: min. 980 mm | YES / NO |  |
| Casting rolls (upper/lower) exchange: max 120 minutes | YES / NO |  |
| Nominal Shell Service Life: min. 10 000 hours operation hours (active casting) OR min. 15 000 tons of production | YES / NO |  |

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| **Edge miller** | |  |
|  | **Compliant** | **Contractor’s offer** |
| Miller head exchange: max. 5 minutes | YES / NO |  |

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| **Coiler** | |  |
|  | **Compliant** | **Contractor’s offer** |
| Capable to wind with or without spool | YES / NO |  |
| Coil removal cycle (starting with strip cut at shear) up to ready for new coil shall take less than 260 seconds in case of spool usage | YES / NO |  |
| Coil removal cycle (starting with strip cut at shear) up to ready for new coil shall take less than 120 seconds in case of no spool usage | YES / NO |  |

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| **Qualitative requirements for the final product** | |  |
|  | **Compliant** | **Contractor’s offer** |
| According to Annex\_3\_1\_TS\_guaranteed\_parameters\_of\_strips | YES / NO |  |

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| **Control system** | |  |
|  | **Compliant** | **Contractor’s offer** |
| At least 30% of free CPU resources | YES / NO |  |
| History of trends for a period of 3 months | YES / NO |  |
| History of alarms for a period of 3 months | YES / NO |  |
| Uniform graphical visualisation of all control panels | YES / NO |  |

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| **Other** | |  |
|  | **Compliant** | **Contractor’s offer** |
| Number of operators for one line at start of casting – max. 4 | YES / NO |  |
| Number of operators for all four lines in operation – max. 6 | YES / NO |  |
| Maximum time from stop casting to start of new casting is 120 minutes | YES / NO |  |
| The total area of all the pieces of equipment complies with the space requirements – see Annex\_3\_CD\_Technical\_specifications.docx | YES / NO |  |
| The equipment complies with all the technical conditions specified in Annex\_3\_TD\_Technical\_specifications.docx and Annex No. 3\_1\_TS\_guaranteed\_parametrs\_of\_strips | YES / NO |  |
| CE declaration of conformity | YES / NO |  |

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| **Scored sub-criteria of the partial evaluation criterion “Technical Parameters”** | |  |
|  | **To be added** | **Contractor’s offer** |
| The lifetime of tip during continual casting | more than 14 days inclusive but less than 20 days – 0 p. (must not be less than 14 days)  more than 20 days inclusive but less than 25 days – 20 p.  more than 25 days inclusive – 50 p. | ……. days |
| In order to evaluate the tenders in connection with this sub-criterion, the Contracting Authority shall use a scoring scale of 0, 20, 50 points as specified above. Each individual tender shall be awarded a score as per the above table. The most favourable tender under the given sub-criterion shall mean the tender with the longest lifetime of tip during continual casting. | | |
| The lifetime of shell during continual casting | more than 10 000 hours inclusive or 15 000 tonnes inclusive but less than 11 000 hours or 16 500 tonnes – 0 p. (meeting at least one of these two values will be sufficient; must not be less than 10 000 hours or 15 000 tonnes)  more than 11 000 hours inclusive or 16 500 tonnes inclusive but less than 12 500 hours or 18 750 tonnes – 20 p. (meeting at least one of these two values will be sufficient)  more than 12 500 hours inclusive or 18 750 tonnes inclusive – 50 p. (meeting at least one of these two values will be sufficient) | …… hours  …… tonnes |
| In order to evaluate the tenders in connection with this sub-criterion, the Contracting Authority shall use a scoring scale of 0, 20, 50 points as specified above. Each individual tender shall be awarded a score as per the above table. The most favourable tender under the given sub-criterion shall mean the tender with the longest lifetime of shell during continual casting. | | |
| Coil removal cycle (starting with strip cut at shear) up to ready for new coil in case of spool usage | less than 229 seconds inclusive – 50 p.  230 – 239 seconds – 30 p.  240 – 249 seconds – 20 p.  250 – 259 seconds – 10 p.  260 seconds – 0 p. (must not be more than 260 seconds) | …… seconds |
| In order to evaluate the tenders in connection with this sub-criterion, the Contracting Authority shall use a scoring scale of 0, 10, 20, 30, 50 points as specified above. Each individual tender shall be awarded a score as per the above table. The most favourable tender under the given sub-criterion shall mean the tender with the shortest coil removal cycle (starting with strip cut at shear) up to ready for new coil in case of spool usage. | | |
| The deadline for providing construction readiness documentation from the contract conclusion | less than 30 days inclusive – 60 p.  more than 30 days but less than  60 days inclusive – 20 p.  more than 60 days but less than  70 days inclusive – 5 p.  more than 70 days – 0 p. | ……. days |
| In order to evaluate the tenders in connection with this sub-criterion, the Contracting Authority shall use a scoring scale of 0, 5, 20, 60 points as specified above. Each individual tender shall be awarded a score as per the above table. The most favourable tender under the given sub-criterion shall mean the tender with the shortest term of delivery of the construction readiness documents from the conclusion of the contract. | | |
| The manufacturer guarantees technical support for discontinued components for at least (alternatives for obsolete components) | less than 5 years inclusive – 0 p.  more than 5 years but less than 10 years inclusive – 5 p.  more than 10 years – 15 p. | ……. years |
| In order to evaluate the tenders in connection with this sub-criterion, the Contracting Authority shall use a scoring scale of 0, 5, 15 points as specified above. Each individual tender shall be awarded a score as per the above table. The most favourable tender under the given sub-criterion shall mean the tender with the longest guaranteed technical support for discontinued components (alternatives to obsolete components). | | |
| The manufacturer guarantees availability of spare parts for all components for at least | less than 5 years inclusive – 0 p.  more than 5 years but less than 10 years inclusive – 5 p.  more than 10 years – 15 p. | ……. years |
| In order to evaluate the tenders in connection with this sub-criterion, the Contracting Authority shall use a scoring scale of 0, 5, 15 points as specified above. Each individual tender shall be awarded a score as per the above table. The most favourable tender under the given sub-criterion shall mean the tender with the longest guaranteed availability of spare parts for all components. | | |
| **TOTAL SCORE** | ……….. p. (max. 240 p.) | |

I/We, the undersigned,       declare upon my/our honour that the aforementioned data are correct and that the contractor      , if selected by the Contracting Authority for the Public Contract, shall deliver the goods exactly according to the technical and business conditions set out in its tender.

In     date

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Name and position of the contractor’s authorized person

Stamp and signature of the contractor’s authorized person