

Technical Specifications - GMAW WIRE

SL. No	Description and Technical Specification of the item	QTY	UNIT	Delivery
1	ER70S-A1 GMAW WIRE DIA 0.8 MM. ASME SEC, IIC, SFA-5.28, ER70S-A1 LOW ALLOY STEEL BARE SOLID WIRE FOR GMAW TO WCPI-152/08.DIA.0.8 MM, Each spool wt: 10/12.5 Kg PRECISION LAYER WOUND PLASTIC SPOOLS.	3,500.00	KG	45 DAYS
2	ER80S-G (1Cr 0.5Mo) GMAW WIRE DIA 0.8 MM. ASME SEC.II.C.SFA-5.28 BARE LOW ALLOY STEEL SOLID GMAW WIRE ER 80S-G. AS PER WCPI-157/00 DIA 0.8mm, Each spool wt: 10/12.5 Kg PRECISION LAYER WOUND SPOOLS.	1,700.00	KG	45 DAYS
3	ER90S-B3 GMAW WIRE DIA 0.8MM ASME SEC, IIC, SFA-5.28, ER90S-B3 LOW ALLOY STEEL BARE SOLID WIRE FOR GMAW TO WCPI-154/08.DIA.0.80 MM X 10/12.5 Kg PRECISION LAYER WOUND PLASTIC SPOOLS.	1,000.00	KG	45 DAYS



BHARATH HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI-620 014
WELDING TECHNOLOGY CENTRE

Doc. Number:	Revision:
WCPI – 152	08
Date: 02/09/2009	

Welding Consumable Purchase Instruction

Page 01 of 04

**PURCHASE INSTRUCTION OF BARE LOW ALLOY STEEL
SOLID WIRE FOR GAS METAL ARC WELDING TO
ASME SEC.II.C, SFA-5.28 CLASS: ER 70S-A1.**

1.0 SCOPE:

1.1 This Purchase Instruction prescribes the requirements for Bare Low Alloy Steel Solid Wire for Gas Metal Arc Welding that conforms to ASME Section II.C.SFA-5.28, Class: ER 70S-A1.

2.0 GENERAL:

2.1 The Wire shall comply with requirements specified in the Latest Edition and Addenda (Applicable on the date of Issue of Purchase Order) of ASME Sec.II.C.SFA-5.28, ER 70S-A1 and all tests, Acceptance Criteria shall be in accordance with this. Additional requirements specified in this document shall also be complied.

2.2 The Wire shall be precision layer wound in plastic spools and shall be supplied in sizes and Quantities as specified in the Purchase Order.

2.3 The Wires are intended for use as a Welding Electrode for butt-welding of tubes in pulsed GMAW process with Argon plus 5% to 20% Co₂ gas shielding in Automatic Straight Tube Butt Welding machine and Orbital TIG Welding with 100 % Argon shielding for Radiography Quality high pressure boiler components.

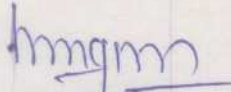
2.4 The manufacture's Material Safety Data Sheet for the product shall be sent along with the consignment.

2.5 Every batch of electrode shall be inspected & test certificates countersigned by Inspecting Authority approved by IBR for country of origin (Latest).

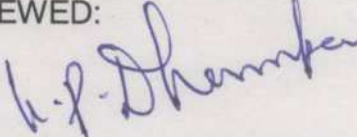
3.0 CHEMICAL COMPOSITION:

3.1 The chemical composition of the Wires shall conform to the following Analysis.

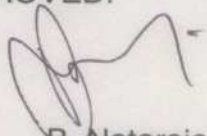
PREPARED:


S. Singaravelu
SM / WTC

REVIEWED:


Dr.K.P. Dhandapani
SDGM/WTC

APPROVED:


B. Natarajan
AGM/WTC & TE



Carbon	0.12 % Max	Molybdenum	0.40 – 0.65%
Manganese	1.30% Max	Copper	0.35% Max
Silicon	0.30 – 0.70%	Nickel	0.20% Max
Sulphur	0.025% Max.	Phosphorus	0.025 % Max
Other Elements Total	0.50 Max		

4.0 USABILITY AND RADIOGRAPHIC SOUNDNESS:

4.1 The Wire when used as electrode in Gas Metal Arc Welding with Argon plus 5% to 20% CO_2 shielding in Automatic Straight Tube Butt Welding machine and in Orbital Tig Welding with 100% Argon shielding shall deposit Weld metal that flows freely, uniformly without sputtering or other defects and shall exhibit excellent wetting characteristics. The resultant Weld metal shall be smooth and uniform with no visible evidence of cracks/porosity or other defects and shall meet Radiographic Soundness requirements specified in ASME Sec.II.C.SFA-5.28, ER 70S-A1.

4.2 Weld metal produced using the wire with 95 % Argon plus 5% CO_2 /100 % Argon shielding shall meet tensile requirements after PWHT at $620 \pm 15^\circ C$ with one hour soaking as follows.

Tensile Strength	515 Mpa (Minimum)
Yield Strength	400 Mpa (Minimum)
% Elongation	19 (Minimum)

4.3 The base metal for weld test assembly and testing procedure to be employed for verifying compliance to 4.1 & 4.2 above shall be as specified in ASME Sec.II.C.SFA-5.28, ER 70S-A1.

5.0 FORM, SIZE, FINISH AND IDENTIFICATION:

5.1 FORM & SIZE:

The Wire shall be supplied in diameters 0.8 mm, 1.2 mm or 1.6 mm as specified in the Purchase Order. The tolerance on diameter shall be + 0.01, -0.04mm..

FORM:

The Wire shall be supplied in plastic spools of dimensions and weight as given below. Spools shall be such material and design so as to provide adequate protection against damage or distortion of themselves and of the wire due to normal handling or use. Spools shall be sufficiently clean and dry to maintain cleanliness of the wire. Spools shall electrically insulate the wire from wire feed spindle.



Barrel Inner Dia. (Bore dia.)	50.5 mm.+2.5,-0 mm	16 mm +1,-0 mm
Spool Outer Dia. (Flange OD) Max	305 mm	100 mm
Spool Width	103 mm +0,-3 mm.	46 mm + 0,-2 mm
Distance between axes	44.5 mm \pm 0.5 mm	-----
Driving Hole Diameter	10 mm + 1,-0 mm	-----
Net Weight	10/12.5/15 Kg.	700 /1000 gm.

5.2 FINISH & UNIFORMITY:

The Wire shall be uniformly copper coated and shall have a smooth & glossy finish that is free from slivers, depressions, scratches, scales, seams, laps, drawing fluids and foreign matter that would adversely affect the welding characteristics, the operation of Welding equipment, or properties of Weld metal. The copper coating shall be well adhered without any flaking so as to ensure against any rusting during long storage and also ensuring good electrical conductivity.

5.3 Each Spool shall contain one continuous length of wire from single heat of metal and no splices are permitted.

5.4 WINDING:

The Wire shall be precision layer wound on spools so that kinks, waves, sharp bends, overlapping or wedging are not encountered, leaving the wire free to unwind without restriction. The outside end of the wire (The end with which welding is to begin) shall be identified so that it can be located readily and shall be fastened to avoid unwinding.

5.5 The spooling shall be rigid without any intermeshing of wire layers. The outer most layer of spooled wire shall not be closer than 3.0 mm to the outside of flanges.

5.6 The cast helix and temper of wire on spools shall be such that the filler wire will feed in an uninterrupted manner in an automatic high output welding system.

5.7 IDENTIFICATION:

Adhesive labels containing following product information shall be securely affixed in prominent location on the outside of at least one flange of the spool.

- a) ASME Specification & Classification designation.
- b) Brand Name.
- c) Batch Number/Heat Number.
- d) Size and Net Weight.



6.0 PACKAGING:

- 6.1 The spools completely devoid of moisture shall be packed in moisture proof cartons so as to prevent any rusting or any deterioration in weld quality during long storage.
- 6.2 The cartons shall have product information as required [REDACTED] above legibly marked so as to be visible from outside of each carton.
- 6.3 The appropriate precautionary information as specified in ANSI Z 49.1 latest edition (as minimum) or its equivalent shall be prominently displayed in legible print on all packages including unit packages.
- 6.4 Spools shall be packed in wooden crates lined with waterproof material so as to ensure against damage during shipment and normal storage conditions. The net weight of each crate shall not exceed 1000 Kg.

7.0 TESTING & CERTIFICATION:

- 7.1 Each consignment of wire spools shall be from one batch only.
- 7.2 Batch /Lot classification shall be "Class S1" as per ~~Section 5.0~~ of SFA-5.01 Filler metal procurement guidelines of ASME Sec.II.C. (Latest Edition & Addenda)
- 7.3 The Level of Testing shall be "Schedule J" ~~of Section 6.0~~ of SFA-5.01 Filler metal procurement guidelines of ASME Sec.II.C. (Latest Edition & Addenda)
- 7.4 Three copies of Original Test certificates in English countersigned by Inspecting Authority (Latest) approved by IBR for country of origin giving details of following tests done for compliance to this Purchase Instruction and ASME Sec.II.C, SFA-5.28, ER70S-A1 shall be sent.
- 7.5 The Testing Authority shall certify that supplies made against the batch conforms to the requirements of the Latest Edition & Addenda (Applicable on the date of issue of Purchase Order) of ASME Sec.II.C.SFA-5.28 ER 70S-A1.

=====



BHARATH HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI-620 014
WELDING TECHNOLOGY CENTRE

Doc. Number: WCPI – 154
Revision: 08
Date: 02/09/2009

Welding Consumable Purchase Instruction

Page 01 of 04

**PURCHASE INSTRUCTION OF BARE LOW ALLOY STEEL
SOLID WIRE FOR GAS METAL ARC WELDING TO
ASME SEC.II.C, SFA-5.28 CLASS: ER 90S-B3.**

1.0 SCOPE:

1.1 This Purchase Instruction prescribes the requirements for Bare Low Alloy Steel Solid Wire for Gas Metal Arc Welding that conforms to ASME Section II.C.SFA-5.28, Class: ER 90S-B3.

2.0 GENERAL:

2.1 The Wire shall comply with requirements specified in the Latest Edition and Addenda (Applicable on the date of Issue of Purchase Order) of ASME Sec.II.C.SFA-5.28, ER 90S-B3 and all tests, Acceptance Criteria shall be in accordance with this. Additional requirements specified in this document shall also be complied.

2.2 The Wire shall be precision layer wound in plastic spools and shall be supplied in sizes and Quantities as specified in the Purchase Order.

2.3 The Wires are intended for use as a Welding Electrode for butt-welding of tubes in pulsed GMAW process with Argon plus 5% to 20% Co₂ gas shielding in Automatic Straight Tube Butt Welding machine and Orbital TIG Welding with 100 % Argon shielding for Radiography Quality high pressure boiler components.

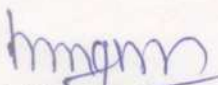
2.4 The manufacture's Material Safety Data Sheet for the product shall be sent along with the consignment.

2.5 Every batch of electrode shall be inspected & test certificates countersigned by Inspecting Authority approved by IBR for country of origin (Latest).


3.0 CHEMICAL COMPOSITION:

3.1 The chemical composition of the Wires shall conform to the following Analysis.


PREPARED:


S. Singaravelu
SM / WTC

REVIEWED:


Dr.K.P. Dhandapani
SDGM/WTC

APPROVED:


B. Natarajan
AGM/WTC & TE



Carbon	0.07-0.12 %	Chromium	2.30 -2.70 %
Manganese	0.40-0.70%	Molybdenum	0.90 – 1.20%
Silicon	0.40 – 0.70%	Copper	0.35% Max
Sulphur	0.025% Max.	Nickel	0.20% Max
Phosphorus	0.025 % Max	Other Elements Total	0.50 % Max

4.0 USABILITY AND RADIOGRAPHIC SOUNDNESS:

4.1 The Wire when used as electrode in Gas Metal Arc Welding with Argon plus 5% to 20% Co₂ shielding in Automatic Straight Tube Butt Welding machine and in Orbital Tig Welding with 100% Argon shielding shall deposit Weld metal that flows freely, uniformly without sputtering or other defects and shall exhibit excellent wetting characteristics. The resultant Weld metal shall be smooth and uniform with no visible evidence of cracks/porosity or other defects and shall meet Radiographic Soundness requirements specified in ASME Sec.II.C.SFA-5.28, ER 90S-B3.

4.2 Weld metal produced using the wire with 95 % Argon plus 5% Co₂ /100 % Argon shielding shall meet tensile requirements after PWHT at 690±15°C with one hour soaking as follows.

Tensile Strength	620 Mpa (Minimum)
Yield Strength	540 Mpa (Minimum)
% Elongation	17 (Minimum)

4.3 The base metal for weld test assembly and testing procedure to be employed for verifying compliance to 4.1 & 4.2 above shall be as specified in ASME Sec.II.C.SFA-5.28, ER 90S-B3.

5.0 FORM, SIZE, FINISH AND IDENTIFICATION:

5.1 FORM & SIZE:

The Wire shall be supplied in diameters 0.8 mm, 1.2 mm or 1.6 mm as specified in the Purchase Order. The tolerance on diameters shall be + 0.01, -0.04mm.

5.2 FORM:

The Wire shall be supplied in plastic spools of dimensions and weight as given below. Spools shall be such material and design so as to provide adequate protection against damage or distortion of themselves and of the wire due to normal handling or use. Spools shall be sufficiently clean and dry to maintain cleanliness of the wire. Spools shall electrically insulate the wire from wire feed spindle.



Barrel Inner Dia. (Bore dia.)	50.5 mm.+2.5,-0 mm	16 mm +1,-0 mm
Spool Outer Dia. (Flange OD) Max	305 mm	100 mm
Spool Width	103 mm +0,-3 mm.	46 mm + 0,-2 mm
Distance between axes	44.5 mm ± 0.5 mm	-----
Driving Hole Diameter	10 mm + 1,-0 mm	-----
Net Weight	10/12.5/15 Kg.	700 /1000 gm.

5.3 FINISH & UNIFORMITY:

The Wire shall be uniformly copper coated and shall have a smooth & glossy finish that is free from slivers, depressions, scratches, scales, seams, laps, drawing fluids and foreign matter that would adversely affect the welding characteristics, the operation of Welding equipment, or properties of Weld metal. The copper coating shall be well adhered without any flaking so as to ensure against any rusting during long storage and also ensuring good electrical conductivity.

5.4 Each Spool shall contain one continuous length of wire from single heat of metal and no splices are permitted.

5.5 WINDING:

The Wire shall be precision layer wound on spools so that kinks, waves, sharp bends, overlapping or wedging are not encountered, leaving the wire free to unwind without restriction. The outside end of the wire (The end with which welding is to begin) shall be identified so that it can be located readily and shall be fastened to avoid unwinding.

5.6 The spooling shall be rigid without any intermeshing of wire layers. The outer most layer of spooled wire shall not be closer than 3.0 mm to the outside of flanges.

5.7 The cast helix and temper of wire on spools shall be such that the filler wire will feed in an uninterrupted manner in an automatic high output welding system.

5.8 IDENTIFICATION:

Adhesive labels containing following product information shall be securely affixed in prominent location on the outside of at least one flange of the spool.

- a) ASME Specification & Classification designation.
- b) Brand Name.
- c) Batch Number/Heat Number.
- d) Size and Net Weight.



6.0 PACKAGING:

- 6.1 The spools completely devoid of moisture shall be packed in moisture proof cartons so as to prevent any rusting or any deterioration in weld quality during long storage.
- 6.2 The cartons shall have product information as required in 5.8 above legibly marked so as to be visible from outside of each carton.
- 6.3 The appropriate precautionary information as specified in ANSI Z 49.1 latest edition (as minimum) or its equivalent shall be prominently displayed in legible print on all packages including unit packages.
- 6.4 Spools shall be packed in wooden crates lined with waterproof material so as to ensure against damage during shipment and normal storage conditions. The net weight of each crate shall not exceed 1000 Kg.

7.0 TESTING & CERTIFICATION:

- 7.1 Each consignment of wire spools shall be from one batch only.
- 7.2 Batch /Lot classification shall be "Class S1" as per ~~ASME Sec.II.C~~ SFA-5.01 Filler metal procurement guidelines of ASME Sec.II.C. (Latest Edition & Addenda)
- 7.3 The Level of Testing shall be "Schedule J" ~~(SFA-5.28)~~ of SFA-5.01 Filler metal procurement guidelines of ASME Sec.II.C. (Latest Edition & Addenda)
- 7.4 Three copies of Original Test certificates in English countersigned by Inspecting Authority (Latest) approved by IBR for country of origin giving details of following tests done for compliance to this Purchase Instruction and ASME Sec.II.C, SFA-5.28, ER90S-B3 shall be sent.
- 7.5 The Testing Authority shall certify that supplies made against the batch conforms to the requirements of the Latest Edition & Addenda (Applicable on the date of issue of Purchase Order) of ASME Sec.II.C.SFA-5.28 ER 90S-B3.

=====



BHARATH HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI-620 014
WELDING TECHNOLOGY CENTRE

Welding Consumable Purchase Instruction

Doc. Number:

WCPI – 157

Revision:

00

Date: 21/01/2010

Page 01 of 03

**PURCHASE INSTRUCTION OF BARE LOW ALLOY STEEL SOLID WIRE FOR GAS METAL
ARC WELDING TO ASME SEC.II.C, SFA-5.28 CLASS: ER 80S-G(1Cr-0.5Mo).**

1.0 SCOPE:

1.1 This Purchase Instruction prescribes the requirements for Bare Low Alloy Steel Solid Wire for Gas Metal Arc Welding that conforms to ASME Section II.C.SFA-5.28, Class: ER 80S-G (1Cr-0.5Mo).

2.0 GENERAL:

2.1 The Wire shall comply with requirements specified in the Latest Edition and Addenda (Applicable on the date of Issue of Purchase Order) of ASME Sec.II.C.SFA-5.28, ER 80S-G (1Cr-0.5Mo) and all tests, Acceptance Criteria shall be in accordance with this. Additional requirements specified in this document shall also be complied with.

2.2 The Wire shall be precision layer wound in plastic spools and shall be supplied in sizes and Quantities as specified in the Purchase Order.

2.3 The Wires are intended for use as a Welding Electrode for butt-welding of tubes in pulsed GMAW process with Argon plus 5% to 20% Co₂ gas shielding in Automatic Straight Tube Butt Welding machine and as a rod for butt welding of tubes in Orbital TIG Welding with 100 % Argon shielding for Radiography Quality high pressure boiler components.

2.4 Every batch of wire shall be inspected & test certificates countersigned by Inspecting Authority approved by IBR for country of origin (Latest).

3.0 CHEMICAL COMPOSITION:

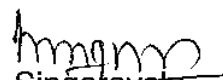
3.1 The chemical composition of the Wires shall conform to the following.

Carbon	0.15 % Max	Chromium	1.00 -1.60 %
Manganese	0.80-1.50%	Molybdenum	0.40 – 0.65%
Silicon	0.40 – 0.70%	Copper	0.40% Max
Sulphur	0.025% Max.	Phosphorus	0.025 % Max

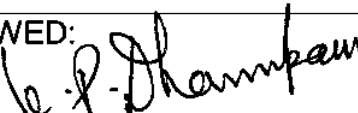
4.0 USABILITY AND RADIOGRAPHIC SOUNDNESS:

4.1 The Wire when used as electrode in Gas Metal Arc Welding with Argon plus 5% to 20% Co₂ shielding in Automatic Straight Tube Butt Welding machine and in Orbital Tig Welding with 100% Argon shielding

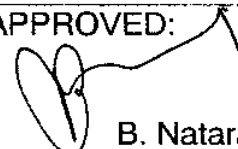
PREPARED:


S. Singaravelu
SM / WTC

REVIEWED:


Dr.K.P. Dhandapani
SDGM/WTC

APPROVED:


B. Natarajan
AGM/WTC & TE



BHARATH HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI-620 014
WELDING TECHNOLOGY CENTRE

Doc. Number:

Rev:

WCPI – 157

00

Page 02 of 03

shall deposit Weld metal that flows freely, uniformly without sputtering or other defects and shall exhibit excellent wetting characteristics. The resultant Weld metal shall be smooth and uniform with no visible evidence of cracks/porosity or other defects and shall meet Radiographic Soundness requirements specified in ASME Sec.II.C SFA-5.28, ER 80S-G (1Cr-0.5Mo).

- 4.1 Weld metal produced using the wire with 95 % Argon plus 5% Co₂ /100 % Argon shielding shall meet tensile requirements after PWHT at 620±15°C with one hour soaking as follows.

YIELD STRENGTH	470 Mpa (Minimum)
TENSILE STRENGTH	550 Mpa (Minimum)
% ELONGATION	19 (Minimum)

- 4.2 The base metal for weld test assembly and testing procedure to be employed for verifying compliance to 4.1 & 4.2 above shall be as specified in ASME Sec.II.C.SFA-5.28, ER 80S-B2.

5.0 FORM, SIZE, FINISH AND IDENTIFICATION:

- 5.1 **FORM & SIZE:** The Wire shall be supplied in diameters 0.8 mm, 1.0 mm or 1.2 mm as specified in the Purchase Order. The tolerance on diameter shall be + 0.01, -0.04mm.
- 5.2 **FORM:** The Wire shall be supplied in plastic spools of dimensions and weight as given below. Spools shall be such material and design so as to provide adequate protection against damage or distortion of themselves and of the wire due to normal handling or use. Spools shall be sufficiently clean and dry to maintain cleanliness of the wire. Spools shall electrically insulate the wire from wire feed spindle. Spools should also rotate freely without any jerks when mounted on the machine.

APPLICATION	GMAW	GTAW
Barrel Inner Dia. (Bore dia.)	50.5 mm +2.5,-0 mm	16 mm +1,-0 mm
Spool Outer Dia. (Flange OD) Max	305 mm	100 mm
Spool Width	103 mm +0,-3 mm.	46 mm + 0,-2 mm
Distance between axes	44.5 mm ± 0.5 mm	-----
Driving Hole Diameter	10 mm + 1,-0 mm	-----
Net Weight	10/12.5/15 Kg.	700 /1000 gm.

- 5.3 **FINISH & UNIFORMITY:** The Wire shall be uniformly copper coated and shall have a smooth & glossy finish that is free from slivers, depressions, scratches, scales, seams, laps, drawing fluids and foreign matter that would adversely affect the welding characteristics, the operation of Welding equipment, or properties of Weld metal. The copper coating shall be well adhered without any flaking so as to ensure against any rusting during long storage and also ensuring good electrical conductivity.
- 5.4 Each Spool shall contain one continuous length of wire from single heat of metal and no splices are permitted.
- 5.5 **WINDING:** The Wire shall be precision layer wound on spools so that kinks, waves, sharp bends, overlapping or wedging are not encountered, leaving the wire free to unwind without restriction. The outside end of the wire (The end with which welding is to begin) shall be identified so that it can be located readily and shall be fastened to avoid unwinding.



BHARATH HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI-620 014
WELDING TECHNOLOGY CENTRE

Doc. Number:

Rev:

WCPI – 157

00

Page 03 of 03

- 5.5 The spooling shall be rigid without any intermeshing of wire layers. The outer most layer of spooled wire shall not be closer than 3.0 mm to the outside of flanges.
- 5.6 The cast helix and temper of wire on spools shall be such that the filler wire will feed in an uninterrupted manner in an automatic high output welding system.
- 5.7 **IDENTIFICATION:** Adhesive labels containing following product information shall be securely affixed in prominent location on the outside of at least one flange of the spool.
- a) ASME Specification & Classification designation.
 - b) Brand Name.
 - c) Batch Number/Heat Number.
 - d) Size and Net Weight.

6.0 PACKAGING:

- 6.1 The spools completely devoid of moisture shall be packed in moisture proof cartons so as to prevent any rusting or any deterioration in weld quality during long storage.
- 6.2 The cartons shall have product information as required in ~~5.7~~ above legibly marked so as to visible from outside of each carton.
- 6.3 The appropriate precautionary information as specified in ANSI Z 49.1 latest edition (as minimum) or its equivalent shall be prominently displayed in legible print on all packages including unit packages.
- 6.4 Spools shall be packed in wooden crates lined with waterproof material so as to ensure against damage during shipment and normal storage conditions. The net weight of each crate shall not exceed 1000 Kg.

7.0 TESTING & CERTIFICATION:

- 7.1 Each consignment of wire spools shall be from one batch only.
- 7.2 Batch /Lot classification shall be "Class S1" as per ~~Section 5.3~~ of SFA-5.01 Filler metal procurement guidelines of ASME Sec.II.C. (Latest Edition & Addenda)
- 7.3 The Level of Testing shall be "Schedule K" ~~Section 5.3~~ of SFA-5.01 Filler metal procurement guidelines of ASME Sec.II.C. (Latest Edition & Addenda)
- 7.4 Three copies of Original Test certificates in English countersigned by Inspecting Authority (Latest) approved by IBR for country of origin giving details of following tests done for compliance to this Purchase Instruction and ASME Sec.II.C,SFA-5.28, ER 80S-G (1Cr-0.5Mo)shall be sent.
- 7.5 The Testing Authority shall certify that supplies made against the batch conforms to the requirements of the Latest Edition & Addenda (Applicable on the date of issue of Purchase Order) of ASME Sec.II.C.SFA-5.28 ER 80S-G (1Cr-0.5Mo).

=====

Sl. No.	Pre –Qualification Criteria - PR 0133911492	Bidder remark
1	If Bidder is a manufacturer, Confirm “Yes or, No” in bidder remark.	
2	Bidder shall be a manufacturer of the Quoted items or an authorized dealer of the same. If the offer is quoted by agent, letter of authorization or agreement duly signed by the manufacturer is required to consider the offer. Tender Enquiry details must available on Letter of authorization or agreement to consider the offer.	
3	Quoted Welding Consumables Brand Name/Product Name	
4	Quoted Product Catalogue	
5	Manufacturing Plant Address / Mill Address	
6	Manufacturer/Bidder shall submit manufacturing process flow chart (Raw material to finished product) along with offer for Quoted Item.	
7	Manufacturer/Bidder shall submit a valid ISO 9001 certificate or Quality management system certificate or Written down procedure for ISO 9001 or A valid ISO 45001 certificate or Written down procedure for Quality inspection.	
8	Manufacturing Plant capacity for GMAW Process.	

Seal and Sign of Authorized Person

Sl. No.	Pre –Qualification Criteria – PR 0133911492	Bidder remark
9	Bidder should confirm and full fill the WCPI- 152/08. Any deviation from the Specification are to be mentioned in the “Bidder remark Space”. If There is no deviation vendor should indicate “No Deviation”.	
10	Bidder should confirm and full fill the WCPI- 154/08. Any deviation from the Specification are to be mentioned in the “Bidder remark Space”. If There is no deviation vendor should indicate “No Deviation”.	
11	Bidder should confirm and full fill the WCPI- 157/00. Any deviation from the Specification are to be mentioned in the “Bidder remark Space”. If There is no deviation vendor should indicate “No Deviation”.	
12	Seal and sign the WCPI- 152/08 for confirmation.	
13	Seal and sign the WCPI- 154/08 for confirmation.	
14	Seal and sign the WCPI- 157/00 for confirmation.	
15	WCPI- 152/08 (Spool Wt.: 10 Kg / 12.5 Kg) Diameter details and Spool Wt. details	
16	WCPI- 154/08 (Spool Wt.: 10 Kg / 12.5 Kg) Diameter details and Spool Wt. details	

Seal and Sign of Authorized Person

Sl. No.	Pre –Qualification Criteria – PR 0133911492	Bidder remark
17	WCPI- 157/00 (Spool Wt.: 10 Kg / 12.5 Kg) Diameter details and Spool Wt. details	
18	Valid IBR certificate status to be provided for ER 70S-A1, ER 80S-G and ER 90S-B3 wire electrode.	
19	<p>Manufacturer/Bidder shall have successful experience for supplying of ER 70S-A1 or, ER 80S-B2 or, ER 80S-G or, ER 90S-B3 or, ER 90S-G to any govt. Organizations/ PSUs/ Public ltd./ Company/Reputed Industries etc.</p> <p>Purchase orders copies/ related documents to be submitted along with offer to consider the offer.</p> <p>Note: Successful experience means – supplied and accepted.</p>	

Seal and Sign of Authorized Person

Annexure – A- Additional Terms and Conditions for GeM Enquiry

The terms and condition mentioned in this document are applicable in addition to the GeM General Terms and Conditions. Bidders shall furnish pointwise confirmation/details.

<i>To be filled by bidder</i>		
Description of the Equipment:		
GeM Tender No. & Date		
Name of the firm (Bidder)		:
Address		:
Contact details	<u>Contact person 1</u> Name: Designation: Office Phone: Mobile: e-mail: <u>Contact person 2</u> Name: Designation: Office Phone: Mobile: e-mail:	
Offer/Quotation reference with date		:
Sl. No	Terms and conditions	Vendor's confirmation
1.	Technical: Supply of GMAW WIRE shall be as per technical Specifications attached with the enquiry. Bidder shall comply the technical specification as per the enquiry. Any clarifications/deviations to the specification requirements are to be clearly indicated in the above format. Hidden deviations indicated elsewhere in the offer will not be evaluated.	
2.	Pre-qualification requirement: Offer shall be considered only if bidder is meeting Tender Prequalification requirement (Annexure-B). Vendor to comply with Pre-Qualification requirement of the tender and submit along with their technical bid - the credentials and other documents as indicated in the PQR in the format prescribed. Otherwise their offer will get rejected.	
3.	Inspection by BHEL/as per Technical specification(if any).	
4.	Vendor offers will be considered for price bid opening subject to fulfilment of techno commercial suitability.	
5.	Evaluation of tender will be item wise.	
6.	Payment terms: <ol style="list-style-type: none"> 1. Payment terms for Non MSME Suppliers: Within 90 days after CRAC 2. Dealers/Traders (if the quoted items are not manufactured by the supplier) shall be considered as Non-MSME supplier for this tender. 3. Payment terms for Micro & Small Enterprises (MSEs): Within 45 days after CRAC. To entitle the above payment terms, the supplier should be manufacturer of the offered item and should upload UDYAM Registration Certificate in proof of MSE. 	

	<p>4. Payment terms for Medium Enterprises: Within 60 days after CRAC. To entitle the above payment terms, the supplier should be manufacturer of the offered item and should upload UDYAM Registration Certificate in proof of Medium Enterprises.</p> <p>Payment shall be as per above terms. This a mandatory deemed accepted clause if you are submitted your offer through GeM. Any deviation in this clause anywhere in the offer will be ignored. If a supplier has submitted their offer against this enquiry, it shall be construed that they have accepted the above payment terms relevant to their MSME category without any deviation (Dealers/Traders (if the quoted items are not manufactured by the supplier) shall be considered as Non-MSME supplier for this tender). In case of Auto PRC/CRAC, Payment due date shall be calculated from CRAC date or material acceptance date by BHEL whichever is later.</p>	
7.	<p>Firm Price: The quoted / finalised rates shall be Firm till execution of the supplies. Offer with PVC clause will not be considered.</p>	
8.	<p>Liquidated Damages: LD terms shall be as per GeM General Terms and Conditions. Invoice date/Bill of Lading date/Airway Bill date/Lorry way bill date/e-waybill/Railway Receipt date, whichever is later will be considered for LD calculation.</p>	
9.	<p>Delivery term: The quote shall be on FOR BHEL Trichy destination basis inclusive of Packing, forwarding, Freight also to yours account. Transit Insurance is under Supplier scope.</p>	
10.	<p>Performance Bank Guarantee: Not Applicable</p>	
11.	<p>If Guarantee / Warranty period is applicable as per tender specification, No deviation is permitted and deviated offers are liable for rejection.</p>	
12.	<p>Repair & replacements: Within the guarantee period vendor has to replace / rectify the defective/ damaged items on free of cost within a reasonable time of reporting from our end.</p>	
13.	<p>Kindly Indicate the HSN Code for all items</p>	HSN CODE : _____
14.	<p>Rate quoted in GeM portal should be on FOR destination basis inclusive of all taxes, freight etc. Transit Insurance is under Supplier scope.</p> <p>Please indicate the applicable GST %, P & F and freight cost (in % of material cost), which is included in your quoted rate in GeM portal.</p>	GST in %:_____
15.	<p>Documents are to be submitted along with technical bid (Part-1)</p> <ol style="list-style-type: none"> 01. Covering letter 02. Unpriced offer. 03. Filled up and signed technical specification (GeM Tender catalogue). 04. Filled BHEL Terms and condition sheet (Annexure-A). 05. Filled Annexure-B - PQR along with supporting documents. 06. Documents required along with offer as per technical specification 07. Product Catalogues (if any). 08. MSE UDYAM Certificate (if applicable). 09. Self-certification for local content declaration as per Make 	

	<p style="text-align: center;">In India Policy</p> <p>Note: All the pages of documents are to be signed and sealed by authorized signatory of the company. Any query during enquiry stage shall be replied within two days failing which offer may be rejected as non-responsive.</p>	
16.	<p>Inspection and testing requirements: Inspection and testing requirements are to be carried out as per the specification and BHEL Technical specifications in the enquiry. All test certificates are to be submitted while supply. If required by BHEL, test certificates to be produced before supply.</p>	
17.	<p>Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GST registration Number (GSTIN) which should be clearly mentioned in the offer. If the dealer is exempted from GST registration, a declaration with due supporting documents need to be furnished for considering the offer. Dealers under composition scheme should declare that he is a composition dealer supported by the screen shot taken from GSTN portal. The dealer has to submit necessary documents if there is any change in status under GST.</p>	
18.	<p>PACKING AND MARKING: The supplier shall arrange for securely protecting and packing the stores to avoid loss or damages during transit. (Wherever if applicable).Also, Supplier to comply for packing & marking as per Technical specification.</p>	
19.	<p>Supplier shall mention their GSTIN in all their invoices (incl. credit Notes, Debit Notes) and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No. which is linked/uploaded in GSTN network shall be clearly indicated), Billed to party (with GSTIN) & Shipped to party details, item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, Place of Supply etc. Wherever E-Invoice is applicable, the tax invoice/ CN / DN submitted by the vendor must contain the QR code generated in E-Invoice Portal & IRN.</p>	
20.	<p>All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).</p>	
21.	<p>Invoices will be processed only upon completion of statutory requirement and further subject to following:</p> <ul style="list-style-type: none"> • Vendor declaring such invoice in their GSTR-1 Return/ IFF • Receipt of Goods or Services and Tax invoice by BHEL. 	
22.	<p>As the continuous uploading of tax invoices in GSTN portal (in GSTR-1/ IFF) is available for all (i.e. both Small & Large) tax payers, all invoices raised on BHEL may be uploaded immediately in GST portal on dispatch of material /rendering of services. The supplier shall ensure availability of Invoice in GSTN portal before submission of invoice to BHEL. Invoices will be admitted by BHEL only if the invoices are available in GSTN portal (in BHEL's GSTR-2A/ GSTR-2B).</p>	
23.	<p>In case of discrepancy in the data uploaded by the supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note or debit note (details also to be uploaded in GSTN</p>	

	portal) for the shortages or rejections in the supplies or additional claims, within the calendar month informed by BHEL.	
24.	In cases where invoice details have been uploaded by the vendor but failed to remit the GST amount to GST Department (Form PMT-08 or Form GST RET-01 to be submitted) within stipulated time, then GST paid on the invoices pertaining to the month for which GST return not filed by the vendor will be recovered from the vendor along with the applicable interest (currently 24% p.a) and all subsequent bills of the vendor will not be processed till filing of the GST return by the vendor	
25.	In case GST credit is denied to BHEL due to non-receipt or delayed receipt of goods and/ or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount claimed in the invoice shall be disallowed to the vendor.	
26.	Where any GST liability arising on BHEL under Reverse Charge (RCM), the vendor has to submit the invoices to BHEL well within the timeline prescribed in GST Law, to enable BHEL to discharge the GST liability. If there is a delay in submission of invoice by the vendor resulting in delayed payment of GST by BHEL along with Interest, then such Interest payable or paid shall be recovered from the vendor.	
27.	GST TDS will be deducted as per Section 51 of CGST Act 2017 and in line with Notification 50/2018 –Central Tax dated 13.09.2018. GST TDS certificate will be generated in GSTN portal subsequent to vendor accepting the TDS deduction in the GSTN portal & the vendor can directly download the Certificate from the GSTN Portal.	
28.	<p>As per the provisions of Section 194Q of the Income Tax Act, we BHARAT HEAVY ELECTRICALS LIMITED, HPBP, TRICHY having PAN AAACB4146P, had turnover in the preceding financial year for more than Rs 10 Crores.</p> <p>Hence, we are liable as buyer to deduct tax at source on the payment for invoices issued by Supplier on or after 1st July 2021. Accordingly, discontinue charging TCS u/s 206C(1H) on invoices issued from 1st Jul 2021 onward.</p> <p>We shall deduct the eligible TDS u/s 194Q on the payments for invoices issued on or after 1st Jul 2021. TDS deducted so, shall be deposited to the Income Tax Department, and TDS certificate to this effect. Tax credit of such TDS shall reflect in FORM26AS of the supplier at the end of same quarter in which TDS is deducted.</p> <p>For Suppliers who have not filed Income Tax returns for the last 2 preceding assessment years, TDS deduction at higher rates will be applicable as per Section 206AB and Section 206CCA of Income-tax act.</p>	
29.	GST CREDIT: Suppliers are advised to get registered to GSTN portal. Tenderer under "GST credit" shall be preferred.	
30.	<p>BILL PROCESSING METHOD:</p> <p>Supplier has to ensure the full quantity of material delivery within given PO delivery date to process the bill for payment. In case supplier fails to deliver full quantity within delivery date, bills received after PO delivery date will be processed after final despatch of the total pending supply. Further, bills will be clubbed and forwarded for payment processing as a single bunch.</p>	
31.	<p>MSE /START-UP VENDOR:</p> <p><i>UDYAM Registration certificate shall be submitted by MSE vendors to</i></p>	

	<i>avail MSE benefits. Start-up category certificate shall be submitted by start-up companies to avail exemption in Annual Turnover/Past experience if PQC stipulates requirement of Annual Turnover/Past experience.</i>	
32.	<p>Make in India Policy: Refer the Tender document regarding public procurement policy (Preference to Make in India), Order 2017. "Bidders shall ensure to apply for Make In India preference while quoting through GeM portal. Otherwise offer will not be considered. The local supplier at the time of tender, bidding or solicitation shall be required to provide self-certification that the item offered meets the minimum local content and shall give details of the Location(s) at which the local value addition is made."</p>	
33.	BHEL has the right to test the materials at BHEL works, if required. If supplied materials are found not acceptable, then BHEL will inform to re-supply the materials as per tender specification mentioned in Purchase Order. If any subsequent failure of not meeting the tender specification, RISK PURCHASE is applicable for the full P.O quantity.	
34.	<p>The offers of the bidders who are under suspension and also the offers of the bidders, who engage the services of the banned firms /principal/agents, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com</p>	
35.	<p>Fraud Prevention Policy Bidder along with its associate /collaborators /sub-contractors /sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.</p>	
36.	<p>Risk purchase clause: a. In the event of any successful Tenderer's failure to fulfil any of the tender / Contract obligations including supply of whole or any part of the ordered items as per Contract / Agreement, BHEL has the right to terminate the contract and purchase from elsewhere, at the risk and cost of the defaulted supplier, either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated in the contract or if the same were not available, the best and nearest available substitute thereof. The supplier shall be liable for the additional expenditure/difference in Cost, if any, including consequential losses which BHEL may sustain by reason of risk purchase in addition to the applicable LD as per the Purchase order/contract. b) The decision of BHEL with regard to the additional expenditure / difference in cost and consequential losses incurred by BHEL shall be final and binding on the supplier. c) The amount recoverable under risk purchase shall be recovered from the defaulted supplier in all or any of the following manners: i. from dues available in the form of Bills payable to defaulted supplier, SD, BGs against the same contract. ii. from the dues payable to defaulted supplier against other contracts in the same Region/Unit /any other region/unit iii. In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against defaulted supplier.</p>	

	iv. GST will be applicable to the amount recoverable under risk purchase	
37.	<p><u>CONFLICT OF INTEREST:</u></p> <p>A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:</p> <p>a) they have controlling partner (s) in common; or</p> <p>b) they receive or have received any direct or indirect subsidy financial stake from any of them; or</p> <p>c) they have the same legal representative/agent for purposes of this bid; or</p> <p>d) they have relationship with each other, directly or through common third parties, <u>that puts them in a position to have access to information about or influence on the bid of another Bidder;</u> or</p> <p>e) Bidder participates in more than one bid in this bidding process, Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. <u>However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from one bidding manufacturer in more than one bid;</u> or</p> <p>f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorise only one agent/dealer. There can be only one bid from the following:</p> <ol style="list-style-type: none"> 1. The principal manufacturer directly or through one Indian agent on his behalf; and 2. Indian/foreign agent on behalf of only one principal; <p style="text-align: center;">or</p> <p>g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid, or</p> <p>h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/Management, only one unit shall quote. Similar restrictions would apply to closely related sister companies. Bidder must proactively declare such sister/common business/ management units in same/similar line of business.</p>	
38.	<p><u>Set off :</u> BHEL shall have the right to recover any money which in the sole opinion of BHEL is due from the supplier from any money due to the supplier under this Contract or any other contract or from the Security Deposit/BG furnished by the supplier under this Contract or any other contract.</p>	
39.	<p><u>Cartel Formation:</u></p> <p>The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having</p>	

	indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.	
40.	The following documents are to be sent along with consignment to store: One Duplicate for Transporter copy of tax invoice + one extra copy of tax invoice + Delivery challan + LR COPY+E-Way bill+ Test Certificates (if applicable).	
41.	Seller Tax invoice, LR copy, E-Way bill, Courier docket etc. are to be uploaded in GeM portal while updating dispatch details in GeM portal	
42.	Seller Tax invoices (Original for Recipient + Duplicate for Transporter) either in Original hard copies or Digitally Signed Soft copies along with copy of LR + E-Way bill are to be sent to the buyer	
43.	Any change in applicable rates of Tax or any other statutory levies (Direct / Indirect) or any new introduction of any levy by means of statute and its corresponding liability for the deliveries beyond the agreed delivery date for reasons not attributable to BHEL will be to vendors account. BHEL will not reimburse the same and any subsequent claim in this respect will be summarily rejected.	
	<p>Note:</p> <ol style="list-style-type: none"> 1. In the event of our customer order covering this tender being cancelled /placed on hold / otherwise modified, BHEL would be constrained to accordingly cancel / hold / modify the tender at any stage of execution. 2. BHEL may negotiate the L1 rate, if not meeting our budget / estimated cost. BHEL may re-float the tender opened, if L1 price is not acceptable to BHEL. 3. BHEL reserves its right to reject an offer due to unsatisfactory past performance by the respective Vendor in the execution of any contract to any BHEL project / Unit. 4. Any other commercial terms indicated by the vendor in their offer elsewhere will be ignored. BHEL will proceed with tender evaluation as per Annexure-A and GeM general terms and conditions only. 	

/ On Bidder's office letter pad /

Self-Declaration

Enquiry No.	
Enquiry Date	

In line with Government public procurement order Number P-45021/2/2017-B.E-II dated 15.06.2017, and further modified order dt. 28.05.2018, 29.05.2019 & order 04.06.2020 issued by DPIIT

I / We hereby declare that I / We are a "Local Supplier" meeting the requirement of minimum local content (..... %) defined in the above government notification for the goods against above mentioned enquiry Number.

Details of location at which local value addition will be made is as follows:

Door No.	
Street / Address 1	
Street / Address 2	
District	
State	
Country	
PIN Code	

We also understand that the false declarations will be in breach of the code of Integrity under rule 175(1)(i)(h) of the General financial rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

For Company Name:

Seal:

Signature:

Date:

Place:

Note:

" Local Content "means the amount of value added in India which shall ,unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured(excluding net domestic indirect taxes) minus the value of imported content in the item(including all customs duties) as a proportion of the total value, in percent. "Local Supplier "means a supplier or service provider whose product or service offered for procurement meets the minimum local content.

The above declaration shall be submitted mandatorily along with the offer in company letter head with seal & signature.

(Please fill all the yellow color field)