

Note No. #1

Attachment:PR DOCS – MAIN –1900142758-FRAME WORK – ANCHOR FASTNERS.pdf

## DISTRIBUTION OF FRAMEWORK ITEMS ACROSS PROJECTS

Annexure-A to Price Bid Format

ITEM: ANCHOR FASTNERS

PR NO 1900142758

Sl.no	Material No	Material Desc	UOM	PMD No	KOTHAG UDEM	BHADRADRI	NORTH KARANPURA	BARH-1	BARH-2	MAUDA	BRBCL NABINAGAR	NPGCL NABINAGAR	RAMAGUNDA M	KORBA	NSPCL BILLAI	TUTICORIN	UDANGUDI	SAGARDI GHI	YADADRI	PATRATU	PANKI
1	PI9752246028	ANCHOR FASTENER M10 X 100	EA	PE.MP.611	88	88	88	88	88	88	88	88	88	88	88	88	12932	3988	10000	3000	2900
2	PI9752246052	ANCHOR FASTNERS-M12X125MM LONG	EA	PE.MP.611	900	852	1068	1152	936	900	1068	1068	1068	1068	900	900	2436	2094	5000	1400	4500
3	PI9752280021	DRIVE-IN/FLUSH/BULLET ANCHOR M10X40	EA	PE.MP.611	482	482	340	482	482	482	340	340	340	340	482	482	1500	4800	5000	1000	1100

- 1.The quantities indicated are distribution of material over various projects.
2. PO will be placed based on our customer clearances for various projects. Vendor to quote the price based on quantity indicated in unpriced format only.
3. The above list of Quantity , project/customer is tentative only. Final details of quantity, Project/ Customer shall be informed at the time of PO
4. The Project/ Customer are subject to change based on business scenario of BHEL.

Note No. #1

Attachment:PR DOCS – MAIN –1900142758-FRAME WORK – ANCHOR FASTNERS.pdf

## FRAMEWORK AGREEMENT FOR FGD FPS PROJECTS

## Un-Priced Price Bid Format

Item: ANCHOR FASTNERS

PR No: 1900142758

Sl No	PR No	Material Code	Material Description	UOM	PR Qty (No.s)	Technical Specification	Price Weightage Factor	Bidder Confirmation (Quoted)
1	1900142758	PY9752246028	ANCHOR FASTENER M10 X 100	EA	17000	PY52246	0.39169	
2	1900142758	PY9752246052	ANCHOR FASTNERS-M12X125MM LONG	EA	13600	PY52246	0.52172	
3	1900142758	PY9752280021	DRIVE-IN/FLUSH/BULLET ANCHOR M10X40	EA	9200	PY52280	0.08659	
Total							1.00000	

## NOTES:

- 1) Vendor to Quote Lumpsum Price for the Total Package.
- 2) Line Item Rates of the individual items shall be derived by multiplying the "Price Weightage Factor" with the Lumpsum Price quoted.
- 3) Unit Rates of the Individual items thus arrived, shall be binding on the bidder, for the total period of Framework Agreement.
- 4) Observations / Objections, if any, of the Bidder, to the "Price Weightage Factor" shall be brought to the notice of BHEL, during Pre-Bid Stage.
- 5) No Observations / Objections shall be entertained after the Techno-Commercial Bid is opened.
- 6) Bidder to indicate "Quoted" in the column "Bidder's Confirmation" as a confirmation of their bid to the respective item.
- 7) The Bid Evaluation is on Overall L1 Basis. Each and Every item of the Package shall be quoted by the bidder.
- 8) Partial offers will not be considered for evaluation and the same are liable for rejection.
- 9) The details of the Projects for which Framework Agreement is proposed are given elsewhere in the NIT. The distribution of the line items across the projects is attached as **Annexure-A**.
- 10) The permissible ordering limits specified in NIT are strictly applicable on the Total Framework Value. The same are not applicable at the Individual Project level.
- 11) The Total Lump price quoted shall be INCLUSIVE of Freight, Packing & Forwarding and Testing Charges.
- 12) The Total Lump price quoted shall be EXCLUSIVE of GST, Third party inspection (TPI) & Insurance Charges.

Note No. #1 Attachment: PR DOCS - MAIN - 1900142758 FRAME WORK - ANCHOR FASTNERS.pdf  
BULK PROCUREMENT OF GENERIC PIPING ITEMS  
**Pre-Qualification Criteria (Technical)**

**Package Name : ANCHOR FASTNER**  
**PR No : 1900142758**


Manufacturers of **ANCHOR FASTNER**, qualified as per the Pre-qualification criteria laid down below, are allowed to bid. Documentary evidence shall be provided by such bidders to establish their claim. **However, offer consideration is subjected to approval from end Customer.**

**The bid evaluation shall be on Overall L1 basis.** The Bidder shall meet the Pre-Qualification Criteria (listed below).

*Non-compliance to any of the criteria listed below will lead to disqualification of bidder for the subject item of the tender.*

**Qualification Criteria of the Bidder:**

1. The bidder should be an established manufacturer of **Anchor fastener** and should have successfully completed Manufacture, Supply of **Anchor fastener**.
2. The Bidder should have successfully completed supply of **Anchor fastener** for similar specification with a total minimum quantity of **10,000 No.s** through a single Purchase Order or multiple Purchase Orders in the last 5 years ending on original due date of this tender, with at least one order executed after 01.01.2019.
3. Detailed BOQ of the items supplied, satisfying the criteria laid down above, shall be provided in the format enclosed as Annexure-1, with details like Project & Customer, Description & Quantity of Items supplied, PO details etc. as a minimum for assessing pre-qualification. **PO Copies, Inspection Reports and Dispatch documents shall be enclosed for the references provided.**
4. The bidder should not have been under suspension for business or blacklisted by any of the BHEL units.

Form No:	 PE&SD	MAIN-1900142758-FRAMEWORK-ANCHOR FASTNERS.pdf BHARAT HEAVY ELECTRICALS LIMITED PROJECT ENGINEERING & SYSTEMS DIVISION PY 52 246	
		<b>TECHNICAL SPECIFICATION</b>	
		<b>CONCRETE STUD ANCHORS</b>	
		Rev. No. 01	Page 1 of 3

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### CONCRETE STUD ANCHORS

#### 1.0 INTRODUCTION & SCOPE

- 1.1 The intent of this document is to specify minimum specification requirements for procurement of **Mechanical type Concrete Stud Anchors**.
- 1.2 The purpose of these stud anchors is to fasten the structural plate to concrete. The plate in turn shall be used for supporting purposes. These anchor fasteners may be installed on the bottom/side/top of the concrete. Supplier is to ensure that the stud is suitable for all these applications.
- 1.3 All the codes/standards mentioned in this specification shall be of latest issue.

#### 2.0 INPUTS & STANDARDS

##### 2.1 DESIGN:




- The concrete stud anchors shall be stud type torque controlled mechanical expansion fasteners having 3-way expansion sleeve with nut and washer.
- Type of fixing this anchor fastener shall be Pre-fastening & Through-fastening.
- The concrete stud anchor shall carry cracked concrete and fire approval.
- Anchor must be tested and approved as per Seismic C1 and C2 Category.
- The safe tensile load carrying capacity of the anchors shall be arrived by providing the minimum factor of safety of 2.5 on the characteristic load of the anchor.
- The minimum Load bearing capacity of each individual bolt shall be as per the below table for minimum concrete strength of M20 in cracked concrete.


Sl.no	Size of Anchor Bolt	Effective Anchorage depth (mm)	Tensile Load (kN)	Shear Load (kN)
01	M8	45	2.4	7.4
02	M10	60	4.3	11.3
03	M12	70	7.6	17.1
04	M16	85	11.9	26.9


- Concrete Stud anchors shall be designed as per ETAG-001 code & Supplier shall ensure that anchors shall meet the cracked concrete requirements.
- The Anchor should be third party tested, possess ETA approval and should be pre-assembled with a galvanized nut and washer.

##### 2.2 MATERIAL AND DIMENSIONAL DETAILS:

- The concrete stud anchors shall be of cold formed carbon steel (minimum grade 5.8 as per IS 1367 Part 3), galvanised to minimum 5 microns as per IS 1367 Part 11 / EN ISO 4042 & externally threaded.
- The 3-way expansion sleeve shall be of SS316 material.
- The Size and Length of the Stud Anchor shall be as mentioned in Material description.

Form No:	LAYOUTS & PIPING ENGINEERING	PREPARED	CHECKED	APPROVED	DATE
	PROJECT ENGINEERING & SYSTEMS DIVISION	 PARAMESH	 V UDAY	 SRIKANTH G	20.08.18

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COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company.			<p><b>2.3 IMPORTANT NOTES:</b></p> <ul style="list-style-type: none"> <li>▪ Vendors' scope is limited to Supply of mechanical concrete stud anchors.</li> <li>▪ Applications shall be in Wide range of applications, which includes cracked concrete.</li> <li>▪ Heavy-duty fastenings in highly safety-relevant or dynamic applications, which includes applications in power plants.</li> <li>▪ Applications may include e.g. heavy equipment, steel columns, heavy pipe supports, beam supports, cantilevers, etc.</li> <li>▪ Application of this stud anchors shall be in Minimum concrete strength of M20. The supplied anchor stud should be suitable for this concrete strength as a minimum.</li> <li>▪ Vendor to follow latest relevant Indian and International Standards for Anchor Fasteners.</li> <li>▪ Vendor shall furnish the following along with their offer               <ul style="list-style-type: none"> <li>○ Model of the Stud Anchor being quoted.</li> <li>○ Catalogue of the Stud Anchor indicating the technical details.</li> <li>○ Maximum load bearing capacity of Stud Anchor.</li> </ul> </li> <li>▪ Post order, vendor shall furnish the data sheets of Stud anchor for approval along with the installation instructions such as               <ul style="list-style-type: none"> <li>○ Diameter of hole to be provided in concrete</li> <li>○ Drill bit to be used</li> <li>○ Anchor embedment depth &amp; fixing details or any other details necessary for completion of installation at site etc.</li> </ul> </li> </ul> <p><b>3.0 INSPECTION</b>            Scope of inspection shall be as called for in the data sheets enclosed / specified in the purchase order / approved quality plan. Inspection agency shall be BHEL / BHEL Third Party Inspection agency.</p> <p><b>4.0 TEST CERTIFICATES</b>            Three copies of all the test certificates required as per this document shall also be furnished.</p> <p><b>5.0 PACKING AND MARKING</b></p> <p><b>5.1</b> All the items shall be packed suitably in closed wooden cases / hard cardboard boxes, enclosed in a moisture resistant wrapping in order to avoid damage, ingress of moisture &amp; corrosion during transit and storage. Suitable supports shall be provided inside the cases in order to avoid internal movement. Each packing case must contain 2 copies of the shipping list giving details of all the contents of the case.</p> <p><b>5.2</b> The following marking shall be done on each packing case minimum on two sides and also at the top:</p> <ul style="list-style-type: none"> <li>▪ Complete address of the consignee and destination as per BHEL Purchase Order.</li> <li>▪ BHEL Purchase Order Number (c) Number of pieces in each packing case</li> <li>▪ Net Weight</li> <li>▪ Gross Weight</li> <li>▪ Packing case number and total number of packing</li> <li>▪ Arrow indicating top of the packing case.</li> </ul> <p><b>6.0 WARRANTY</b>            Vendor shall warranty all supplies against the defects due to manufacturing effecting performance for a period of sixty month from the date of supply and shall repair/ replace promptly, without cost, any part or parts of the material that fails within said period.</p>	

Note No. #1	Attachment: PR DOCS	 PE&SD	MAIN-1900142758-FRAME WORK-ANCHOR FASTNERS.pdf BHARAT HEAVY ELECTRICALS LIMITED PROJECT ENGINEERING & SYSTEMS DIVISION <b>TECHNICAL SPECIFICATION</b> <b>CONCRETE STUD ANCHORS</b>	PY 52 246 Rev. No. 01 Page 3 of 3
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## 7.0 DOCUMENTATION:

Bidder shall confirm in their bid for compliance in all respect for the submission of documents along with no. of copies (indicated in brackets) to be submitted at various stages to Purchaser as indicated below:

Sl No	Description	Along with Offer	After placement of Order	After Supply completion
1	<b>Leaflet / catalogue</b> for the offered item indicating complete cross sectional arrangement, binding dimensions, bill of materials with material specification details	<b>I (1)</b>		
2	GA Drawing.	I (1)	A ( 4 )	
3	Quality Assurance Plan (QAP)	I (1)	A ( 4 )	
4	<b>Any deviations</b> to this standard	<b>A (1)</b>		
5	<b>Shelf life of each item in scope of supply and recommended storage precautions</b>		<b>I (3)</b>	
6	Test Certificates		I (5)	
7	Warrantee Certificate		I (2)	
8	Installation, maintenance, safety procedures, catalogues, list of spares if any, contact addresses of vendor & dealers, phone nos. etc).		<b>I (2)</b>	<b>I (4)</b>

Note: I : For Information      A : For Approval

RECORD OF REVISIONS				
Rev. No.	Date	Revision Details	Revised	Approved
00	20.08.2018	First Issue	--	--
01	02.11.2019	Generally Revised	V UDAY	SRIKANTH G

Note No. #1 Attachment: PR DOCS - MAIN - 1900140758 FRAME WORK ANCHOR FASTNERS.pdf		BHARAT HEAVY ELECTRICALS LIMITED		PY 52 280
Form No:	 PE&SD	PROJECT ENGINEERING & SYSTEMS DIVISION		Rev. No. 00
		TECHNICAL SPECIFICATION FOR		Page 1 of 3
		CONCRETE DRIVE-IN/FLUSH/BULLET ANCHORS		

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### CONCRETE DRIVE-IN/FLUSH/BULLET ANCHORS

#### 1.0 INTRODUCTION & SCOPE

- 1.1 The intent of this document is to specify minimum specification requirements for procurement of **Concrete Drive-in/ Flush/ Bullet Anchors**.
- 1.2 The purpose of these anchors is to screw-in the threaded tie-rod, after embedding the anchor in concrete. This threaded tie rod is in turn used for fixing of HVAC ducts/ pipe supports/ cable tray supports and other service utilities.
- 1.3 These anchor's shall be inserted into a pre- drilled hole and then fixed in concreted using a setting tool. These anchors shall be installed on the bottom-side of the concrete. Supplier is to ensure that the anchor is suitable for the application.
- 1.4 **Scope of supply shall also include the Setting tool for the Anchors. 1 Setting tool for every 1000 nos of Anchors, subjected to a minimum of 1 setting tool per order, shall be supplied.**
- 1.5 All the codes/standards mentioned in this specification shall be of latest issue.

#### 2.0 INPUTS & STANDARDS

##### 2.1 DESIGN:




- The anchors shall be inserted into a pre- drilled hole in concrete and then embedded in concreted using a setting tool.
- The concrete stud anchor shall carry cracked concrete and fire approval.
- Anchors shall be designed as per ETA code & Supplier shall ensure that anchors shall meet the cracked concrete requirements.
- The minimum Load bearing capacity of each individual bolt shall be as per the below table for minimum concrete strength of M25 in cracked concrete.


Sl.no	Size of Anchor	Tensile Load (kN)	Shear Load (kN)
01	M8	3.3	3.9
02	M10	5.1	4.1
03	M12	7.1	11.1

- Concrete Stud anchors shall be designed as per ETAG-001 code & Supplier shall ensure that anchors shall meet the cracked concrete requirements. The Anchor should be third party tested, possess ETA approval


##### 2.2 MATERIAL AND DIMENSIONAL DETAILS :

- The anchors should be of cold formed carbon steel (minimum grade 5.8 as per IS 1367 Part 3), galvanised to minimum 5 microns as per IS 1367 Part 11 / EN ISO 4042 & internally threaded.
- Technical details of the anchor shall be as follows:
  - Size/length as mentioned in Material description.
  - Threaded – Internally; for fixing a threaded rod.

Form No:	LAYOUTS & PIPING ENGINEERING	PREPARED	CHECKED	APPROVED	DATE
	PROJECT ENGINEERING & SYSTEMS DIVISION	 PARAMESH	 V UDAY	 SRIKANTH G	02.11.19

Note No. #1 Attachment: PR DOCS	Form No:	 PE&SD	<b>CS - MAIN - 1900140758 - FRAME WORK - ANCHOR FASTNERS</b> <b>BHARAT HEAVY ELECTRICALS LIMITED</b> <b>PROJECT ENGINEERING &amp; SYSTEMS DIVISION</b> <b>TECHNICAL SPECIFICATION FOR</b> <b>CONCRETE DRIVE-IN/FLUSH/BULLET ANCHORS</b>	<b>PY 52 280</b> Rev. No. 01 Page 2 of 3
<div style="display: flex;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); padding: 10px; border: 1px solid black; margin-right: 10px;"> <b>COPYRIGHT AND CONFIDENTIAL</b>          The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company.       </div> <div style="flex-grow: 1; padding: 10px;"> <p><b>2.3 IMPORTANT NOTES:</b></p> <ul style="list-style-type: none"> <li>Vendors' scope is limited to Supply of these anchors</li> <li>Applications shall be in Wide range of applications, which includes cracked concrete.</li> <li>Anchors should be cold formed carbon steel &amp; Galvanized. Fastenings includes in highly safety-relevant or dynamic applications, which includes applications in power plants.</li> <li>The internal thread should enable the fixing of conventional threaded rods which are of metric ISO standard thread.</li> <li>No damage should happen to the thread when tapping in and expanding</li> <li>Application of this anchors shall be in Minimum concrete strength of M25. The supplied anchor stud should be suitable for this concrete strength as a minimum.</li> <li>Vendor to follow latest relevant Indian and International Standards for Anchor Fasteners.</li> <li>Vendor shall furnish the following along with their offer               <ul style="list-style-type: none"> <li>Model of the Anchor being quoted.</li> <li>Catalogue of the Anchor indicating the technical details.</li> <li>Maximum load bearing capacity of Stud Anchor.</li> </ul> </li> <li>Post order, vendor shall furnish the data sheets of Stud anchor for approval along with the installation instructions such as               <ul style="list-style-type: none"> <li>Diameter of hole to be provided in concrete</li> <li>Drill bit to be used</li> <li>Anchor embedment depth &amp; fixing details or any other details necessary for completion of installation at site etc.</li> </ul> </li> </ul> <p><b>3.0 INSPECTION</b>            Scope of inspection shall be as called for in the data sheets enclosed / specified in the purchase order / approved quality plan. Inspection agency shall be BHEL / BHEL Third Party Inspection agency.</p> <p><b>4.0 TEST CERTIFICATES:</b>            Three copies of all the test certificates required as per this document shall also be furnished.</p> <p><b>5.0 PACKING AND MARKING</b></p> <p><b>5.1</b> All the items shall be packed suitably in closed wooden cases / hard cardboard boxes, enclosed in a moisture resistant wrapping in order to avoid damage, ingress of moisture &amp; corrosion during transit and storage. Suitable supports shall be provided inside the cases in order to avoid internal movement. Each packing case must contain 2 copies of the shipping list giving details of all the contents of the case.</p> <p><b>5.2</b> The following marking shall be done on each packing case minimum on two sides and also at the top:</p> <ul style="list-style-type: none"> <li>Complete address of the consignee and destination as per BHEL Purchase Order.</li> <li>BHEL Purchase Order Number (c) Number of pieces in each packing case</li> <li>Net Weight</li> <li>Gross Weight</li> <li>Packing case number and total number of packing</li> <li>Arrow indicating top of the packing case.</li> </ul> </div> </div>				



Note No. #1	Attachment: PR DOCS	 PE&SD	BHARAT HEAVY ELECTRICALS LIMITED PROJECT ENGINEERING & SYSTEMS DIVISION <b>TECHNICAL SPECIFICATION FOR</b> <b>CONCRETE DRIVE-IN/FLUSH/BULLET ANCHORS</b>		MAIN-1900142758-FRAME WORK ANCHOR FASTNERS.pdf <b>PY 52 280</b>
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## 6.0 WARRANTY

Vendor shall warranty all supplies against the defects due to manufacturing effecting performance for a period of sixty month from the date of supply and shall repair/ replace promptly, without cost, any part or parts of the material that fails within said period.

## 7.0 DOCUMENTATION:

Bidder shall confirm in their bid for compliance in all respect for the submission of documents along with no. of copies (indicated in brackets) to be submitted at various stages to Purchaser as indicated below:

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1	<b>Leaflet / catalogue</b> for the offered item indicating complete cross sectional arrangement, binding dimensions, bill of materials with material specification details	<b>I (1)</b>		
2	GA Drawing.	I (1)	A ( 4 )	
3	Quality Assurance Plan (QAP)	I (1)	A ( 4 )	
4	<b>Any deviations</b> to this standard	<b>A (1)</b>		
5	<b>Shelf life of each item in scope of supply and recommended storage precautions</b>		<b>I (3)</b>	
6	Test Certificates		I (5)	
7	Warrantee Certificate		I (2)	
8	Installation, maintenance, safety procedures, catalogues, list of spares if any, contact addresses of vendor & dealers, phone nos. etc).		<b>I (2)</b>	<b>I (4)</b>

Note: I: For Information


A: For Approval


## RECORD OF REVISIONS

Rev. No.	Date	Revision Details	Revised	Approved
00	02.11.2019	First Issue	--	--

Note No. #1


Attachment:PR DOCS – MAIN –1900142758-FRAME WORK – ANCHOR FASTNERS.pdf

 PROJECT ENGINEERING & SYSTEM DIVISION		STANDARD MANUFACTURING QUALITY PLAN				QP. NO.:PESD/QA/ FASTENER/01/18-19								
		PRODUCT: FASTENER				BHEL SPEC: AS PER P.O		REV NO: 00	DATE: 23-02-2019					
								PAGE 1 OF 3						
SL NO	COMPONENTS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	* D	AGENCY				REMARKS
										P	W	V		

1.0 BOUGHT OUT ITEMS														
1.1	FASTENERS	Material batch identification, dimensions and GO & NO-GO check	Major	Visual, dimensional, GO & NO-GO check	Sampling plan IS 1367 : Part 17 (AQL=1, LQ10 = 12, sample size = 32, Ac = 1)	BHEL specification or IS Standard IS 1367 : Part 17	BHEL specification or IS Standard IS 1367 : Part 17	MTC and inspection reports	√	2	2	--	Inspection shall be carried out by main supplier.	
2.0 FINAL INSPECTION & TESTING														
2.1	FASTENERS	Visual, Dimensions, GO & NO-GO check	Major	Visual, dimensional, GO & NO-GO check	Sampling plan IS 1367 : Part 17 (AQL=0.65, LQ10 = 25, sample size = 8, Ac = 0)	BHEL Specification /BOQ/ IS Standard	BHEL Specification /BOQ/ IS Standard	Inspection reports	√	2	1	--		
2.2		Chemical & Mechanical Properties, Impact test and Heat Treatment (heat treatment if applicable)	Major	TC Review	One sample per Lot			MTC	√	2	--	1		
<b>LEGEND: P: PERFORM, W: WITNESS, V: TC REVIEW. INDICATE 1 FOR BHEL CQS /BHEL NOMINATED INSPECTION AGENCY/END USER &amp; 2 FOR VENDOR/SUB VENDOR AS APPROPRIATE AGAINST EACH COMPONENT /CHARACTERISTIC UNDER P, W &amp; V COLUMNS. * FOR ITEMS MARKED ✓ (TICK) IN COLUMN 'D', TEST CERTIFICATES SHALL BE SUBMITTED TO BHEL FOR RECORDS.</b>					APPROVED BY <div></div> BHEL QA SIGNATURE & STAMP					APPROVED BY  -NA-  CUSTOMER'S SIGNATURE & STAMP (if applicable)				

Note No. #1

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 PROJECT ENGINEERING & SYSTEM DIVISION		STANDARD MANUFACTURING QUALITY PLAN						QP. NO.:PESD/QA/ FASTENER/01/18-19						
		PRODUCT: FASTENER						BHEL SPEC: AS PER P.O		REV NO: 00		DATE: 23-02-2019		
										PAGE 2 OF 3				
SL NO	COMPONENTS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	* D	AGENCY P W V				REMARKS
2.3		PMI#	Major	PMI test	Random			IR/TC	√	2	1	1	# If applicable 10 sets shall be witnessed randomly by "1"	
2.4		Galvanization* (mass of zinc coating Thickness of Coating, embrittlement, adherence, finish appearance, etc)	Major	Measure ment	As per specification			IR/TC	√	2	-	1		
2.5		BOM Check	Major	Visual	100%			Inspection reports	√	2	1	--		
3.0 PRESERVATION & PACKING														
3.1	FASTENERS	Packing# and markings	Major	Visual	Random	BHEL Specification	BHEL Specification	Packing List	√	2	--	1	#Seaworth y packing for export orders refer note-5.	

**LEGEND:** P: PERFORM, W: WITNESS, V: TC REVIEW. INDICATE 1 FOR BHEL CQS /BHEL NOMINATED INSPECTION AGENCY/END USER & 2 FOR VENDOR/SUB VENDOR AS APPROPRIATE AGAINST EACH COMPONENT /CHARACTERISTIC UNDER P, W & V COLUMNS. \* FOR ITEMS MARKED ✓ (TICK) IN COLUMN 'D', TEST CERTIFICATES SHALL BE SUBMITTED TO BHEL FOR RECORDS.

APPROVED BY



BHEL QA SIGNATURE &amp; STAMP


APPROVED BY

-NA-

CUSTOMER'S SIGNATURE & STAMP  
(if applicable)

Note No. #1

Attachment:PR DOCS – MAIN –1900142758-FRAME WORK – ANCHOR FASTNERS.pdf

 PROJECT ENGINEERING & SYSTEM DIVISION		STANDARD MANUFACTURING QUALITY PLAN				QP. NO.:PESD/QA/ FASTENER/01/18-19							
		PRODUCT: FASTENER				BHEL SPEC: AS PER P.O				REV NO: 00	DATE: 23-02-2019		
										PAGE 3 OF 3			
SL NO	COMPONENTS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	* D	AGENCY P   W   V			REMARKS

Notes:-

1. This Standard MQP should be read along with specification (Latest revision as per PO), approved drawings & approved datasheet.
2. Drawing/datasheet shall prevail over quality plan for contradiction if any.
3. Any project/customer specific requirements which shall be notified have to be fulfilled by the vendor at the time of execution of order.
4. **NACE requirement:** For items coming under **NACE category**, all tests, reports, MTC and certificates shall be submitted as per **NACE MR0103** requirements.
5. Seaworthy packing shall be **witnessed** BHEL/BHEL nominated inspection agency for overseas project.

Abbreviations:-

MTC	-	Material Test certificate	TC	-	Test Certificate
NDE	-	Non Destructive Examination	CS	-	Carbon Steel
PMI	-	Positive Material Identification			
SS	-	Stainless Steel			
IR	-	Inspection Report			

<b>LEGEND: P: PERFORM, W: WITNESS, V: TC REVIEW. INDICATE 1 FOR BHEL CQS /BHEL NOMINATED INSPECTION AGENCY/END USER &amp; 2 FOR VENDOR/SUB VENDOR AS APPROPRIATE AGAINST EACH COMPONENT /CHARACTERISTIC UNDER P, W &amp; V COLUMNS. * FOR ITEMS MARKED ✓ (TICK) IN COLUMN 'D', TEST CERTIFICATES SHALL BE SUBMITTED TO BHEL FOR RECORDS.</b>	APPROVED BY  BHEL QA SIGNATURE & STAMP	APPROVED BY -NA- CUSTOMER'S SIGNATURE & STAMP (if applicable)
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