

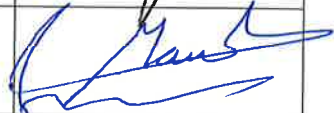


ECA-PKI-ML-11

Raw Material Specification SS420/UNS 42000

Approved By: SHEQ Manager

Work Instructions

	Name	Job Title	Date	Signature/Stamp
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Reviewed by:	Kiran Kumar	Material Lab Engineer, SHEQ	05/03/2020	
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Revision: 00
EFFECTIVE DATE: 05/03/2020

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1 PURPOSE

- The purpose of this work instruction is to provide a detailed description Raw Material Specification of SS420/UNS 42000.

2 SCOPE

- This scope applies only to Material Specification of SS420/UNS 42000.

3 CROSS REFERENCES

- N/A

4 ABBREVIATIONS & DEFINITIONS

ASTM:	American Society for Testing and Materials
AISI :	American Iron and Steel Institute
EN:	European Standard
NDT:	Non Destructive Test
MTC:	Material Test certificate

5 RESPONSIBILITIES

- The “Material Lab Engineer” is responsible to implement and maintain this work instructions document.

6 RESOURCES:

- NA

7 BREAKDOWN AND ITEMS LIST

- NA

8 WORK INSTRUCTIONS

	Specification	Reference Standard																				
Material	Hot Rolled Bar Steel SS420 /UNS 42000	ASTM A276																				
Chemical Composition	<table border="1"> <thead> <tr> <th>Symbol</th> <th>AISI SS420 Wt. %</th> </tr> </thead> <tbody> <tr> <td>C</td> <td>Shall be > 0.25 %</td> </tr> <tr> <td>Mn</td> <td>1.0 maximum</td> </tr> <tr> <td>S</td> <td>0.03 Maximum</td> </tr> <tr> <td>P</td> <td>0.04 Maximum</td> </tr> <tr> <td>Si</td> <td>1.0 maximum</td> </tr> <tr> <td>Cr</td> <td>12.0-14.0</td> </tr> <tr> <td>Mo</td> <td>--</td> </tr> <tr> <td>Ni</td> <td>--</td> </tr> <tr> <td>Fe</td> <td>Balance</td> </tr> </tbody> </table>	Symbol	AISI SS420 Wt. %	C	Shall be > 0.25 %	Mn	1.0 maximum	S	0.03 Maximum	P	0.04 Maximum	Si	1.0 maximum	Cr	12.0-14.0	Mo	--	Ni	--	Fe	Balance	
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Melting	Melting by : Electric Arc Furnace +Refining/Degassing																					
Shape and Size	Length and size as per the purchase order Dimensional Tolerance as per the Reference Standard	ASTM A484/ A484M																				
Delivery Condition	<ul style="list-style-type: none"> Quenched and Tempered Hardness: $\geq 280\text{BHW}$($>29\text{ HRC}$) Tensile Strength , Rm MPA 800 – 1000 Yield Strength Rp 0.2Mpa 600 Min Elongation: 12 % Min Grain Size : 6 to 8 	ASTM A370-12A ASTM E10 ASTM E112-12																				
Surface Defect	Shall be Free from any Surface Defects like Laps/ Seams, scabs, Slivers, crack or fissure																					
Inspection Report	<ul style="list-style-type: none"> The supplier shall provide the raw material certificate that includes the information below: <ul style="list-style-type: none"> Material Specification. Dimensions of the Raw material. Heat Number Chemical Composition Heat treatment condition cycle parameters (time and temperature). Mechanical properties(Hardness , Tensile, Impact) Metallographic Test Grain Size Certificate of Compliance with reference to our Purchase Order. 	EN 10204:2001 Inspection certificate 3.1																				
NDT Inspection	Ultrasonic 100 % Inspection shall be carried out and reported in MTC Dimensional and Visual Inspection	ASTM A388 M																				
Packing	<ul style="list-style-type: none"> Each bar or block shall be permanently labelled with the material grade and Heat number. 																					

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|--|---|--|
| | <ul style="list-style-type: none"> Bars shall be protected by oil and prepared for sea transportation. | |
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9 RELATED RECORDS & REPORTS

FORM ID NUMBER	RECORD REPORT NAME

10 DISTRIBUTION OF DOCUMENT

No.	Receivers of document
1	Material Lab
2	SHT

11 DOCUMENT REVISION HISTORY

Revision	Page/ Paragraph	Changes description
00	-	Initial Issue