



ATLANTA

METALLURGICAL SERVICES PVT. LTD.

Gat No. 194, Hanuman nagar,
Shiye, MIDC Shirol, Kolhapur. 416 122.
Cell: +91-9309225144



TC-8410

Web : www.atlantalab.in
Email : info@atlantalab.in

- Metallurgical Testing
- Failure Analysis
- Heat Treat Process Analysis
- Material Solutions
- Metallurgical Consulting

TEST REPORT - Chemical Analysis by Spectrometer

Name of Customer	: Indo Spark Construction Services 198, E Ward Tararani Chowk, Kavala Naka, Kolhapur Kolhapur - 416003 (Maharashtra, India)	ULR No.	: TC841025000002274F
		Report No.	: S-20161/24-25/1
		Date of Receipt	: 22/01/2025
		Date of Test	: 22/01/2025
		Date of Report	: 22/01/2025

Lab ID	: 20161/24-25
Customer Reference	: DC No-6779 / Date-22.01.2025
Identification of Sample	: CAS 20 X 200 (8.8)
Heat No.	:
Material Specification	: ISO-898-1:1999-Class-8.8
Condition of Sample	: Test Piece
Type of Test Description	: Chemical Analysis by Spectrometer
Test Method	: IS-8811:1998 (Reaffirmed-2018)
Instruments Utilized	: Optical Emission Spectrometer-Bruker-Q4-TASMAN
Calibration Date	: 30/04/2024 & Due On 29/04/2025
Test Carried Out at	: Permanent Facility



TEST RESULTS

Elements	Req. Min. (%)	Req. Max. (%)	Obs. Value (%)	Unce. (±)	Remark
% Carbon	0.1500	0.4000	0.1740	± 0.0120	
% Phosphorus	-	0.0350	0.0123	± 0.0030	
% Sulphur	-	0.0350	0.0087	± 0.0011	
% Boron	-	0.00300	0.00100	± 0.00060	

Statement of Conformity with Decision Rule :

- For the elements marked bold, the material does not confirm the specification even if measurement uncertainty is taken into consideration.
- For the elements which are not marked in bold, the material confirms to specification even if measurement uncertainty is taken into consideration.

Result : Above results are Meeting with Chemical requirement of ISO-898-1:1999-Class-8.8 Specification.

Tested By

Mr. Chandrakant N. Sawardekar
(Lab Assistant)

Authorized Signatory

Mr. Amol S. Turambekar
(Quality Manager)

Terms & Conditions :

- The results relate only to the sample tested, Sample(s) drawn by party.
- Test Certificate shall not be re-produced except in full without the written approval of Laboratory.
- AMS has made their best endeavors to provide accurate and reliable information. AMS is not responsible for any financial liability due to any act of omission or error made.
- Samples are preserved for 15 Days. Any ambiguity in test results should be brought forward to the Lab Management within this period.



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TEST REPORT - Rockwell Hardness Test

Name of Customer	: Indo Spark Construction Services 198, E Ward Tararani Chowk, Kavala Naka, Kolhapur Kolhapur - 416003 (Maharashtra, India)	ULR No.	: TC841025000002276F
		Report No.	: H-20161/24-25/3
		Date of Receipt	: 22/01/2025
		Date of Test	: 22/01/2025
		Date of Report	: 22/01/2025

Lab ID	: 20161/24-25
Customer Reference	: DC No-6779 / Date-22.01.2025
Identification of Sample	: CAS 20 X 200 (8.8)
Heat No.	:
Material Specification	: ISO-898-1:1999-Class-8.8
Condition of Sample	: Test Piece
Type of Test Desc.	: Rockwell Hardness Test
Test Method	: IS-1586-Part-I:2018
Instruments Utilized	: Rockwell Hardness Tester
Calibration Date	: 02/03/2024 & Due On 01/03/2025
Test Carried Out at	: Permanent Facility



TEST DETAIL

Force	100 Kgf			
Scale	B Scale			
Hardness Requirement	-			
Hardness Values Observed	Obs. Value	Obs. Value Avg.	Unce.	Unit
	78.00	78.67	± 1.050	HRBW
	80.00			
	78.00			

Statement of Conformity with Decision Rule:-

1. For the parameters marked bold, the material does not confirm the specification even if measurement uncertainty is taken into consideration.
2. For the parameters which are not marked in bold, the material confirms to specification even if measurement uncertainty is taken into consideration.

Result :

Tested By Mr. Pradip P. Mane (Lab Executive)	Authorized Signatory Mr. Nikhil D. Tawade (Mechanical Dept. In-charge)
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TEST REPORT - Microstructural Analysis-Coating Thickness Measurement

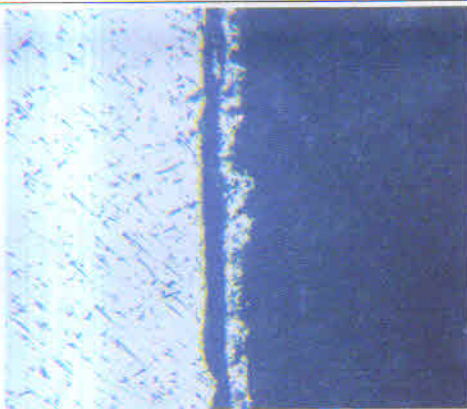
Name of Customer	: Indo Spark Construction Services 198, E Ward Tararani Chowk, Kavala Naka, Kolhapur Kolhapur - 416003 (Maharashtra, India)	ULR No.	: TC841025000002275F
		Report No.	: M-20161/24-25/2
		Date of Receipt	: 22/01/2025
		Date of Test	: 22/01/2025
		Date of Report	: 22/01/2025
Lab ID	: 20161/24-25		
Customer Reference	: DC No-6779 / Date-22.01.2025		
Identification of Sample	: CAS 20 X 200 (8.8)		
Heat No.	:		
Material Specification	: ISO-898-1:1999-Class-8.8		
Condition of Sample	: Test Piece		
Type of Test Description	: Microstructural Analysis-Coating Thickness Measurement		
Test Method	: IS-3203:1982 (Reaffirmed-2021)		
Instruments Utilized	: Metallurgical Microscope-Metagraph (METATECH)		
Calibration Date	: 14/07/2024 & Due On 13/07/2025		
Test Carried Out at	: Permanent Facility		



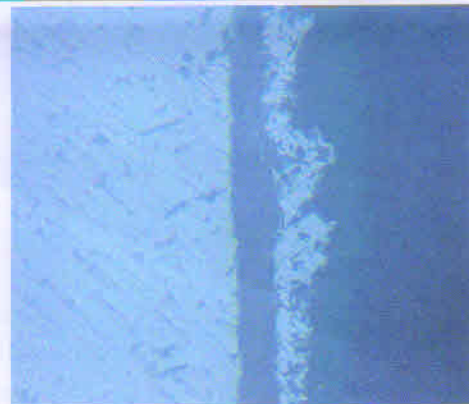
TEST RESULTS

Etchant : N.A.

Etching Condition : Immersion Etching



100X



200X

Observed Readings in Micron	1	2	3	4	5
	34.310000	38.600000	35.200000	32.100000	34.900000
Average Coating Thickness in Micron :	35.022000				Unce. : -

Result :

Tested By

Mr. Ajinkya P. Chorage
(Assistant Metallurgist)

Authorized Signatory

Mr. Sanket S. Vathare
(C.E.O. & Technical Manager)

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TEST REPORT - Tensile Test

Name of Customer : Indo Spark Construction Services
198, E Ward Tararani Chowk, Kavala
Naka, Kolhapur
Kolhapur - 416003 (Maharashtra, India)

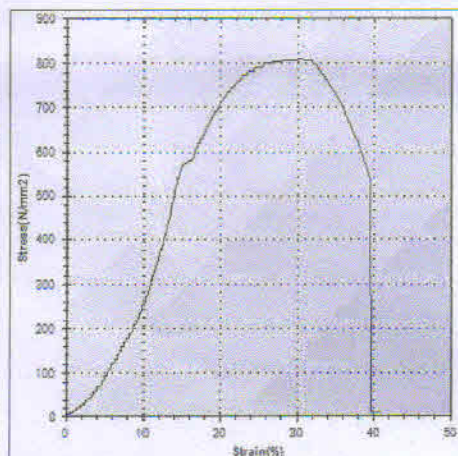
ULR No. : TC841025000002277F
Report No. : T-20162/24-25/1
Date of Receipt : 22/01/2025
Date of Test : 23/01/2025
Date of Report : 23/01/2025

Lab ID : 20162/24-25
Customer Reference : DC No-6779 / Date-22.01.2025
Identification of Sample : CAS 20 X 200 (8.8)
Heat No. :
Material Specification : ISO-898-1:1999-Class-8.8
Condition of Sample : Dully Machined Test Bar
Type of Test Description : Tensile Test
Test Method : ISO-6892-1-2019
Instruments Utilized : Universal Testing Machine-TUF-C-1000
Calibration Date : 02/03/2024 & Due On 01/03/2025
Test Carried Out at : Permanent Facility



TEST RESULTS

	Obs. Value	Req. Value	Unce.	Unit
Specimen Diameter	10.05	-	-	mm
Specimen Cross Section Area	79.36	-	-	mm ²
0.2% Proof Load	45410	-	-	N
Load at Peak	64050	-	-	N
Gauge length for % Elongation	50.00	-	-	mm
Final Gauge Length	59.64	-	-	mm
Final Diameter	6.05	-	-	mm
Final Cross Section Area	28.76	-	-	mm ²
0.2% Proof Stress	572.20	660.00 Min	± 5.040	N/mm ²
Tensile Strength	807.08	830.00 Min	± 4.830	N/mm ²
% Elongation	19.28	12.00 Min	± 0.980	%
% Reduction Area	63.76	52.00 Min	± 1.230	%



Statement of Conformity with Decision Rule :

1. For the parameters marked bold, the material does not confirm the specification even if measurement uncertainty is taken into consideration.
2. For the parameters which are not marked in bold, the material confirms to specification even if measurement uncertainty is taken into consideration.

Result : Above Results are Not Meeting with Physical Requirement of ISO-898-1:1999-Class-8.8 Specification.

Tested by

Mr. Pradip P. Mane
(Lab Executive)

Authorized signatory

Mr. Nikhil D. Tawade
(Mechanical Dept. In-charge)

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