



DEEP METALLURGICAL SERVICES

Approved Proficiency Testing Provider (Chemical & Mechanical) by NABL



20, New Modella Indl. Estate, Padwal Nagar, Wagle Indl. Estate, Thane - 400 604. Maharashtra, India. Tel.: (022) 2583 1530, 2081 6664 2580 6688. Mob.: 9892216539 | 8928368028 | 9920044840 E-mail : deep.ptp2018@gmail.com / mech@deep-tp.in Web : www.deepmetlab.com

ISO 17043 - 10, PC - 1045

TECHNICAL STANDARD INSTRUCTION FOR FERRITE GRAIN SIZE MEASUREMENT IN TWO PHASE STRUCTURE OF NORMALIZED LOW CARBON STEEL BY MICROSCOPIC METHOD

A Proficiency Testing Program

- A.1 Program Name: Proficiency Testing Scheme Ferrite grain size measurement
- A.2 Program code No Met.1
- A.3 Material Normalized low carbon steel
- A.4 Test Method ASTM E112, ASTM E562, IS4748, ASM 9, ISO or any validated method
- A.5 Lab Code
- A.6 Sample code
- A.7 Program starting date
- A.8 Program closing date
- A.9 Last date of result submission
- A.10 Final result reporting date

B Sample Description

B.1 Test Specimen: One metallurgical polished round specimen with 1um surface finish is provided. The nominal dimension of the specimen is 35Φ mm and thickness 12 mm. The grain size may be revealed after etching with 2%Nital. The sample bears a unique Identification number that has to be mentioned in the test result reporting format sheet accordingly.

C Test Requirement

- C.1 Test is to be performed by one operator and one microscope only
- C.2 Test must be performed either manual or image analysis

D Test procedure Three methods of grain size measurement are recommended and any of the following methods can be used for measurement.

- D.1 Comparison method
- D.2 Lineal method
- D.3 Image analysis
- D.4 Measurement may be performed at 100magnfication for at least 20locations for achieving relative accuracy better than 10% or lower.
- D.5 All measurement must be performed 100magnfication or higher magnification. It is a two phase structure consisting of ferrite (bright) and pearlite (dark) and only ferrite grain size has to be measured. Participants need not carry out measurement of pearlite grain size.

E Expected range: The estimation of grain size must be performed either by direct comparison or by quantitative measurement expressed in micron employing any standard technique. Representative micrograph with magnification details must be provided.

PT program	Test method	Expected Grain size	Procedure
Met/1	ASTM E112, ASTM E562,IS4748,ASM 9, ISO or any validated method	ASTM No 5 to 9	Comparison method at 100magnfication
		63.5 to 16micron	Lineal method at 100magnfication or Image analysis technique



DEEP METALLURGICAL SERVICES

Approved Proficiency Testing Provider (Chemical & Mechanical) by NABL



20, New Modella Indl. Estate, Padwal Nagar, Wagle Indl. Estate, Thane - 400 604. Maharashtra, India. Tel.: (022) 2583 1530, 2081 6664 2580 6688. Mob.: 9892216539 | 8928368028 | 9920044840 E-mail : deep.ptp2018@gmail.com / mech@deep-ntp.in Web : www.deepmetlab.com

ISO 17043 - 10, PC - 1045

TECHNICAL STANDARD INSTRUCTION FOR FERRITE GRAIN SIZE MEASUREMENT IN TWO PHASE STRUCTURE OF NORMALIZED LOW CARBON STEEL BY MICROSCOPIC METHOD

F Competency

- F.1 Competent person should carry out the test and evaluate the result as routine test.
- F.2 The participant is required to submit the report for each sample as per result reporting Format with accuracy as mentioned
- F.3 All results will be analyzed based on Robust Algorithm A and Z score according to ISO13528-15.
- F.4 Final report includes all clauses of 4.8.2 of ISO17043-2010
- F.5 In case of loss or deterioration of PTP Specimen, please feel free to contact PT provider for replacement.
- F.6 In case of exclusion of a PT schemes by the participant side, the participant must inform PT provider and sample must be sent back.
- F.7 Collusion and falsification of your PTP result are totally forbidden. In case of suspicion of collusion or falsification, the PT Provider reserves the right to exclude the participants.

PT Coordinator,

K.K. Karmakar
Deep Metallurgical Services
Mobile; +91 9892216539, Email: deep.ptp2018@gmail.com



DEEP METALLURGICAL SERVICES

Approved Proficiency Testing Provider (Chemical & Mechanical) by NABL



20, New Modella Indl. Estate, Padwal Nagar, Wagle Indl. Estate, Thane - 400 604. Maharashtra, India. Tel.: (022) 2583 1530, 2081 6664 2580 6688. Mob.: 9892216539 | 8928368028 | 9920044840 E-mail : deep.ptp2018@gmail.com / mech@deep-tp.in Web : www.deepmetlab.com

ISO 17043 - 10, PC - 1045

TECHNICAL STANDARD INSTRUCTION FOR FERRITE GRAIN SIZE MEASUREMENT IN TWO PHASE STRUCTURE OF NORMALIZED LOW CARBON STEEL BY MICROSCOPIC METHOD

TEST RESULT REPORT FORMAT

A Proficiency Testing Program

- A.1 Program Name: Proficiency Testing Schemes Ferrite grain size measurement
A.2 Program code No Met.1
A.3 Material Normalized low carbon steel
A.4 Test Method ASTM E112, ASTM E562, IS 4748, ISO or any validated method
A.5 Lab Code
A.6 Sample code
A.7 Program starting date A.8 Program closing date
A.9 Last date of result submission A.10 Final result reporting date

Sr. No	Parameter	Result (Up to 1 decimal)	Unit	Results
1	Grain size ferrite no.	ASTM No.	No.	
2	Grain diameter ferrite	Average diameter	Micron	

Method & Magnification: Equipment used:

NABL/ISO Certificate No.:

Tested by organization

Name:

Designation

Please send the complete Test Result Form (Soft & hard copy) to PTP Coordinator, Deep Metallurgical Services, 20, New Modella Industrial Estate, Padwal Nagar, Wagle Estate, Thane, Maharashtra, India, Pin-400604, Mobile- 9892216539, Email: mech@deep-tp.in, deep.ptp2018@gmail.com