

## PUBLICATION DEPARTMENT

**History****Document Details**

<b>Name of Department/Committee :</b>	MTD 21
<b>Document Number :</b>	MTD 21 (21512)
<b>Document Title [English] :</b>	MICRO-FOCAL RADIOGRAPHY FOR INDUSTRIAL COMPONENTS RECOMMENDED PRACTICES
<b>Document Title [Hindi] :</b>	औद्योगिक घटकों के लिए माइक्रो-फोकल रेडियोग्राफी - अनुशंसित अभ्यास
<b>Document Type :</b>	New
<b>Language :</b>	English
<b>Priority :</b>	3
<b>ICS Code :</b>	19.100
<b>Date of Project Approval :</b>	23-12-2020

**Standards to be Superseded/  
Withdrawn when this document gets  
published :**

**Classification Details**

<b>Group :</b>	Metals, Alloys and Metal Products (including Steel Products)
<b>Sub Group :</b>	Heat treatment, metallography and testing
<b>Sub Sub Group :</b>	Code of Practice on Non-destructive testing
<b>Aspects :</b>	Code of Practice
<b>Risk :</b>	High
<b>Certification :</b>	None

**Short Common Man's Title :**

**ITCHS Code :**

**Ministry :**

**Sustainable development Goals :** 1. INDUSTRY, INNOVATION AND INFRASTRUCTURE

**Degree of Equivalence :** Indigenous

**Identical/Equivalent Standards :**

**Organization Type:**

#### Division Council Chairperson Approval Details

**Request Date:** 04-09-2024

**Status of Chairperson Approval:** Division Council Chairperson approval uploaded by member secretary ([Click to View](#))

**Division Council Chairperson :** Amit Bhattacharjee

**Attachment :** [View](#)

**Sectional Committee Chairman Approval :** N/A

#### ::Cross Referenced Indian Standard::

Sl. No.	Is No & Year	IS Title
1	IS 13805: 2004	General standard for qualification and certification of non - Destructive testing personnel - Specification (First Revision)

#### WC Covering letter Synopsis Points

Sl.No.	Synopsis Points
1	X-Ray equipments having the focal spot size less than 100 $\mu\text{m}$ are referred as Microfocus system. Currently there are advanced micro-focus systems having focal spot size of even 5 $\mu\text{m}$ . Micro-focus radiography systems have the capability to examine even the miniature details of an article by using the magnified X-ray images, which enhances the capability of flaw detection and the reliability. As there is no penumbra effect, the images obtained have very high resolution.
2	Currently when there is an advancement of technology, cost effectiveness and weight reduction are major factors. Accordingly the detection of finer defects and enhancement of reliability are prime factors for not only for strategic sectors but also for generic applications. These factors necessitates for Microfocus Radiography inspection and hence a need to have a standard.
3	This Indian Standard covers the recommended practice for micro-focal radiography of materials, components and assemblies. The practice outlined in this standard is intended to provide the basis for good working practices for producing high quality radiographs for inspection of welded joints and castings used in strategic sectors like Aerospace, Defence and Nuclear etc, turbine blade inspection to detect fine cracks; Inspection of printed circuit boards (PCB), inspection of tube to tube sheet weld of heat exchangers; inspection of ceramics and composites to detect micro-voids, etc. This standard deals with micro-focal x-ray systems, focal spot measuring techniques, magnification, image recording methods and image quality

## Gazette Details



TABLE 1A: DETAILS ON GAZETTE NOTIFICATION OF INDIAN STANDARDS

<b>Department</b>	MTD
<b>No.,Year &amp; Title of the Indian Standards to be Established</b>	MTD/21/21512 ( <b>Note:</b> IS Number will be allocated by Publication Department) <b>Title:</b> MICRO-FOCAL RADIOGRAPHY FOR INDUSTRIAL COMPONENTS RECOMMENDED PRACTICES
<b>Date of establishment</b>	This date will be auto-populated based on the date of approval of Gazette notification by Competent authority
<b>Whether Product std. (Yes/No)</b>	No

TABLE 1B: DETAILS ON GAZETTE NOTIFICATION OF INDIAN STANDARDS

<b>No.,Year &amp; Title of the Indian Standards to be withdrawn, if any*</b>	----
<b>Period of concurrency [in months] :</b>	To be decided by Competent Authority
<b>Date of withdrawal</b>	Same as Date of Establishment
<b>Remarks:</b>	NA as the standard is NEW.

[Edit Gazette Details](#)


## Timeline Details

[View Previous Details](#)

S.No.	P-Draft Completion Date	WC-Draft Completion Date	Final-Draft Completion Date	Project Completion Date(Gazette)	Entered By	Entered On
1	19-12-2022	19-05-2023	27-09-2023	30-04-2024	KUNAL KUMAR	16-07-2024

## Stages

Sl. No.	Stage	Date of Occurrence	Remarks	Circulated to	Files
1	Project-Approval	23-12-2020			--

2	P-Draft Waived	20-12-2022	The committee in its 28th meeting decided to send it for WC as it was going since long in the committee	---
3	WC Draft	20-12-2022	<b>Duration : 33 Days Submitted for HOD approval</b>	<a href="#">Download</a>
4	WC Draft	21-12-2022	<b>WC approved by HOD</b>	MTDC, MTD 21, <a href="#">Download</a>
5	Skipped to Finalization	27-09-2023	Stage-Changed	---
6	Finalization	27-09-2023	-----	--
7	Final Draft	27-09-2023	<b>Submitted for HOD approval</b>	<a href="#">Base Document</a>
8	Final Draft draft accepted by HOD and sent to Publication	27-09-2023	<b>Final Draft approved by HOD</b>	
9	Final Draft	10-10-2023	<b>Final Draft rejected by Publication</b> <b>Remarks:</b> provide the document in word format and hindi title mismatch in pdf and module	
10	Final Draft	12-10-2023	<b>Submitted for HOD approval</b> <b>Remarks:</b> Document in word format is attached Also hindi title on portal modified as in word document	<a href="#">Base Document</a> <b>Supporting Files :</b> 
11	Final Draft Rejected by HOD	12-10-2023	<b>Final Draft rejected by HOD</b> <b>Remarks:</b> Please discuss	
12	Final Draft	19-01-2024	<b>Submitted for HOD approval</b> <b>Remarks:</b> Discussed Final draft document is attached kindly approve the document for printing	<a href="#">Base Document</a>
13	Final Draft draft accepted by HOD and sent to Publication	27-03-2024	<b>Final Draft approved by HOD</b>	
14	Final Draft	28-03-2024	<b>Final Draft rejected by Publication</b> <b>Remarks:</b> provide the document in word format	
15	Final Draft	01-04-2024	<b>Submitted for HOD approval</b> <b>Remarks:</b> Document in word format is attached Kindly process the document for printing	<a href="#">Base Document</a>
16	Final Draft draft accepted by HOD and sent to Publication	16-04-2024	<b>Final Draft approved by HOD</b>	

17	Accepted by Publication	18-04-2024	<b>Final Draft accepted by Publication</b> <b>Remarks:</b> Accepted by Publication	---
18	Proof sent by OSA to Publication	15-07-2024	Proof to OSA Stage-Skipped	---
19	Proof sent to Technical Department	15-07-2024	प्रथम एडिटिड कॉपी संलग्न है ।	<b>Document 1:</b> <a href="#">File 1</a>
20	Proof sent to Publication	26-07-2024	All corrections has been done. kindly process further.	<b>Document 1:</b> <a href="#">File 1</a>
21	Proof sent by OSA to Publication	08-08-2024	Proof to OSA Stage-Skipped	---
22	Proof sent to Technical Department	08-08-2024	Please provide proof not PDF, AFTER DOING, ACCEPTING THE CORRECTIONS, OR AFTER REPLYING THE COMMENTS.	<b>Document 1:</b> <a href="#">File 1</a>
23	Proof sent to Publication	16-08-2024	The following corrections has been done-1) Page no.3, Clause 4.2, formula of geometric unsharpness 2) Clause 6.1, MuMetal is same as mentioned in the document, 3) Annex A- Shri A. Mukhopadhyay is alternate member of Defence Metallurgical Research Laboratory, Ministry of Defence, Hyderabad, 4) Annex-A - Shri J.K. Jain is Principal member of Nuclear Power Corporation of India Limited, Mumbai, 5) Designation of Member Secretary. Corrected document is attached.	<a href="#">Document 1</a>
24	Proof sent by OSA to Publication	27-08-2024	Proof to OSA Stage-Skipped	---
25	Skipped to Pdf Stage	27-08-2024	Proof to Technial Department Stage-Skipped	---
26	Stage-Skipped	27-08-2024	PDF to OSA Stage-Skipped	Not Available
27	Pdf sent by Publication to Technical Department	27-08-2024	the file is received 16.08.24 through technical department to publication department and file is not open kindly sent the correct file .	<a href="#">Document 1</a>
28	Pdf sent by Technical Department to Publication	04-09-2024	F-draft document is attached.	<a href="#">Document 1</a>
29	Stage-Skipped	09-09-2024	PDF to OSA Stage-Skipped	Not Available

30	Pdf sent by Publication to Technical Department	09-09-2024	We want the proof file with corrections that you have sent on 16th August, that is showing error while opening, not f-draft and not PDF file. Mistakenly proof stage skipped earlier hence please sent the proof here (word file) in PDF stage only.	<a href="#">Document 1</a>
31	Pdf sent by Technical Department to Publication	09-09-2024	please find attached the proof file with corrections.	<a href="#">Document 1</a>
32	Stage-Skipped	10-09-2024	PDF to OSA Stage-Skipped	Not Available
33	Pdf sent by Publication to Technical Department	10-09-2024	PDF attached, with the comments that was not addressed earlier, please reply them to proceed for the final stage.	<a href="#">Document 1</a>
34	Pdf sent by Technical Department to Publication	17-09-2024	The comments specified have been addressed in the attached document.	<a href="#">Document 1</a>
35	Stage-Skipped	17-09-2024	PDF to OSA Stage-Skipped	Not Available
36	Pdf sent by Publication to Technical Department	17-09-2024	PDF attached, please check and provide chairperson approval and gazette details.	<a href="#">Document 1</a>
37	Pdf sent by Technical Department to Publication	19-09-2024	DC approval is attached. The standard is new, so the Period of concurrency is not required. The document may be processed for printing.	<a href="#">Document 1</a>

**TIMELINE (CRITICAL)****IS NUMBER ALLOCATION****PROOF STAGE : TO OSA****PDF STAGE : TO OSA****PDF STAGE : TO TECHNICAL DEPARTMENT****UPLOAD AND WITHDRAW**