

PERLAKSANAAN LATIHAN DAN PEPERIKSAAN PRAKTIKAL KAEDAH PENEMBUSAN

1.0 LATIHAN PRAKTIKAL

a. Latihan Praktikal Penembusan Tahap 1 & 2

- i. PB perlu menyediakan dan memastikan peralatan seperti berikut dalam keadaan baik dan berfungsi:

<i>No</i>	<i>Equipment</i>	<i>Ratio</i>
1.	<i>Testing Instruction</i>	1:1
2.	<i>Acceptance Criteria</i>	1:1
3.	<i>Fix Penetrant Station</i>	
	<i>i. Water Washable Fluorescent Penetrants Tank</i>	1:15
	<i>ii. Post Emulsifiable Fluorescent Penetrant Tank</i>	1:15
	<i>iii. Emulsifier tank</i>	1:15
	<i>iv. Water Rising Station with Spray Nozzle</i>	1:15
	<i>v. Drying Station</i>	1:15
4.	<i>Well Ventilated Dark Room / Inspection Room</i>	1:25
5.	<i>Lux Meter / Photometer</i>	1:25
6.	<i>Radiometer / Black light Meter</i>	1:25
7.	<i>UV- Alight / Black Light</i>	1:5
8.	<i>Ultrasonic bath for through cleaning of standard specimen</i>	1:25
9.	<i>Comparator Block</i>	1:15
10.	<i>PSM 5 Panel (Sensitivity panel)</i>	1:15
11.	<i>Thermometer</i>	1:25
12.	<i>Stopwatch</i>	1:5
13.	<i>Personal Protection Equipment (PPE)</i>	1:1

<i>No</i>	<i>Consumables</i>
1.	<i>Solvent Visible Penetrant</i>
2.	<i>Solvent Cleaner.</i>
3.	<i>Solvent Developer (Visible)</i>
4.	<i>Solvent Fluorescent Penetrant</i>
5.	<i>Solvent Developer (Fluorescent)</i>
6.	<i>Water Washable Fluorescent Penetrant</i>
7.	<i>Emulsifier</i>
8.	<i>Remover</i>

9.	<i>Post-Emulsifiable Fluorescent Penetrant</i>
10.	<i>Developer Dry</i>
11.	<i>Cotton Rags / tissue</i>
12.	<i>Dust mask</i>
13.	<i>Cotton Gloves</i>

No	Test Specimen	Minimum Quantity
1.	Welded Construction (Plate) – minimum size 10" x 10"	4 pieces
2.	Welded Construction (Pipe)	4 pieces
3.	Welded Construction (T Joint)	1 piece
4.	Engineering Components - Casting	2 pieces
5.	Engineering Components - Forging	2 pieces
6.	Engineering Components –Wrought / Smooth machined surface	2 pieces
* Minimum requirement for training sample should have: <ul style="list-style-type: none"> - Various surface cracks - Surface porosity - Lamination (end of plate) 		

b. Latihan Praktikal Magnetik Partikel Tahap 3

- i. PB perlu menyediakan dan memastikan peralatan seperti berikut dalam keadaan baik dan berfungsi:

No	NOSS Requirement	Ratio	Teaching Method
1.	<i>Casting product samples</i>	1:25	<i>Slide / Video</i>
2.	<i>Forging product samples</i>	1:25	<i>Slide / Video</i>
3.	<i>Rolling product samples</i>	1:25	<i>Slide / Video</i>
4.	<i>Drawing product samples</i>	1:25	<i>Slide / Video</i>
5.	<i>Milling product samples</i>	1:25	<i>Slide / Video</i>
6.	<i>Welding product samples</i>	1:25	<i>Slide / Video</i>
7.	<i>Test pieces showing various defect samples found during fabrication work</i>	1:25	<i>Slide / Video</i>
8.	<i>Test pieces showing various in service defects and failures found after service activities</i>	1:25	<i>Slide / Video</i>

No	Equipment	Ratio
1.	<i>Code and Standard</i>	1:1

2.	<i>Computer</i>	1:25
3.	<i>Printer</i>	1:25
4.	<i>Projector</i>	1:25

2.0 PEPERIKSAAN PRAKTIKAL

a. Peperiksaan Praktikal Magnetik Partikel Tahap 1 dan Tahap 2.

- i. PB perlu menyediakan peralatan seperti berikut dan disahkan oleh Ketua Pemeriksa sebelum peperiksaan dijalankan:

<i>No</i>	<i>Equipment</i>
1.	<i>Fix Penetrant Station</i>
	<i>i. Water Washable Fluorescent Penetrants Tank</i>
	<i>ii. Post Emulsifiable Fluorescent Penetrant Tank</i>
	<i>iii. Emulsifier tank</i>
	<i>iv. Water Rising Station with Spray Nozzle</i>
	<i>v. Drying Station</i>
2.	<i>Well Ventilated Dark Room</i>
3.	<i>Lux Meter / Photometer</i>
4.	<i>Radiometer / Black light Meter</i>
5.	<i>UV- Alight / Black Light</i>
6.	<i>Ultrasonic bath for through cleaning of standard specimen</i>
7.	<i>Comparator Block</i>
8.	<i>PSM 5 Panel (Sensitivity panel)</i>
9.	<i>Thermometer</i>
10.	<i>Stopwatch</i>
11.	<i>Personal Protection Equipment (PPE)</i>

- ii. PB perlu menyediakan bahan guna habis seperti berikut dan disahkan berada dalam keadaan yang baik dan masih belum tamat tarikh luput oleh Ketua Pemeriksa sebelum peperiksaan dijalankan:

<i>No</i>	<i>Consumables</i>
1.	<i>Solvent Visible Penetrant*</i>
2.	<i>Solvent Cleaner*</i>
3.	<i>Solvent Developer (Visible)*</i>

4.	<i>Solvent Fluorescent Penetrant*</i>
5.	<i>Solvent Developer (Fluorescent)*</i>
6.	<i>Water Washable Fluorescent Penetrant*</i>
7.	<i>Emulsifier*</i>
8.	<i>Remover*</i>
9.	<i>Post-Emulsifiable Fluorescent Penetrant*</i>
10.	<i>Developer Dry*</i>
11.	<i>Cotton Rags / tissue</i>
12.	<i>Dust mask</i>
13.	<i>Cotton Gloves</i>

b. Peperiksaan Magnetik Partikel (MT) Tahap 3

- i. PB perlu menyediakan dan memastikan peralatan seperti berikut dan disahkan oleh ketua pemeriksa sebelum peperiksaan dijalankan:

No	Kelengkapan Peralatan
1.	Code and Standard