

GUIDELINES FOR APPLICATION FOR REGISTRATION AS SPECIALIST PROFESSIONAL ENGINEER IN ACCESS PLATFORM ENGINEERING

Introduction

1. A PE in mechanical engineering may apply to be registered as a specialist professional engineer in access platform engineering if he has a valid practicing certificate and meets one of the following sets of conditions as specified in the Fourth Schedule of the PE Rules as follows:

Set (A)

- (i) the applicant is approved by the Commissioner for Workplace Safety and Health under section 33 of the Workplace Safety and Health Act as an authorised examiner for the purpose of carrying out any prescribed examination or test of —
 - (A) any hoist or lift; or
 - (B) any lifting machine that includes any work platform or suspended scaffold capable of being raised or lowered by climbers, winches or other powered device; and
- (ii) the application for registration as a specialist professional engineer is submitted before 18 January 2018

Set (B)

- (i) the applicant has not less than 5 years (in aggregate) of such experience in access platform engineering or in any field related to access platform engineering (whether in Singapore or elsewhere) as may be acceptable to the Board, of which at least 3 years of such experience was obtained whilst practising as a registered professional engineer in Singapore; and
- (ii) the applicant has sat for and passed a specialist registration examination on access platform engineering conducted by the Board.

Examination

2. One of the requirements as mentioned in para 1 above is that a Set (B) applicant must sit for and pass a specialist registration examination on access platform engineering conducted by the Board. The specialist registration examination on access platform engineering conducted by the Board is an oral examination and will be conducted together with the professional interview for registration as specialist PE in access platform engineering in a single session. The syllabus for the examination is as specified in Annex A below.

Report

3. An application by a Set (B) applicant shall be accompanied by a report on practical experience that describes in particular the experience that the applicant has acquired in access platform engineering or in any related field. It should include the tasks that the applicant has been involved in, the levels of his responsibilities, the identification of special engineering problems encountered and the demonstration of the use of engineering knowledge, experience and judgment to resolve them etc. The Report shall be about 2,000 words and must not be a mere inventory of work done.
4. The report shall be typewritten and 5 copies shall be submitted (i.e. 1 original and 4 photostat copies). The report must be signed by the applicant himself/herself and verified by his/her employers or any registered Professional Engineer in Singapore. Verification by an employer should be accompanied by a stamp with name, designation and name of company. Verification by a professional engineer should be accompanied by the professional engineer's stamp.

Interview

5. The Board would require a Set (B) applicant to undergo an interview. The interview would cover the following:
 - a) to determine the type and duration of practical experience in access platform engineering or in any related field;
 - b) to assess the basic understanding, and scope and depth of the applicant's practical experience in access platform engineering or in any related field, in particular, to establish the level of responsibility – i.e. whether the applicant's nature of work is at subordinate level or at the level of making technical decisions and to establish whether his experience is sufficient to enable him to act and take technical decisions independently.
6. The applicant could be queried on his involvement in one or more phases of a project such as planning, design & analysis, construction, and operation & maintenance in relation to access platform engineering or in any related field.
7. An applicant is required to demonstrate that he has substantial practical experience and knowledge as to be competent in core areas of access platform engineering or in any related field mentioned above. In addition, the conduct, attitude and professionalism that the applicant displays during the interview would also be considered.
8. When registering a professional engineer in the specialised branch of access platform engineering, the Board may impose such conditions as it thinks fit.

Fees

9. The fees for an application by a Set (B) applicant to sit for the specialist registration examination in the branch of access platform engineering is \$450. The fees for an application by a Set (A) or Set (B) applicant to register as a specialist professional engineer in access platform engineering is \$300.

Submission

10. An application to sit for the specialist registration examination and/or register as specialist professional engineer in the branch of access platform engineering shall be submitted in person and made on prescribed forms issued by the Professional Engineers Board, Singapore. The application must be legibly written in ink or type-written and 5 copies shall be submitted.

SYLLABUS FOR SPECIALIST REGISTRATION EXAMINATION IN ACCESS PLATFORM ENGINEERING

Workplace Safety and Health Legislations and Guidelines Related to Access Platform Engineering

1. Workplace Safety and Health Act
2. Workplace Safety and Health (Construction) Regulations
3. Workplace Safety and Health (General Provisions) Regulations
4. Workplace Safety and Health (Operation of Cranes) Regulations
5. Workplace Safety and Health (Risk Management) Regulations
6. Workplace Safety and Health (Scaffolds) Regulations
7. Workplace Safety and Health (Ship building and Ship-repairing) Regulations
8. Workplace Safety and Health (Work at Height) Regulations

Codes and Standards Related to Access Platform Engineering

The applicant shall have an in-depth understanding of the relevant local and international codes and standards including but not limited to the following:

1. ANSI A92- Elevating And Vehicle Lift Devices
2. AS 1418.1- Crane, Hoist And Winches
3. BS 1495- Lifting Platform - Mast Climbing Work Platforms
4. BS 5974- Code Of Practice For Temporarily Installed Suspended Scaffolds And Access Equipment
5. BS 6037-1- Code Of Practice For The Planning, Design, Installation And Use Of Permanently Installed Access Equipment, Part 1: Suspended Access Equipment
6. BS 7981- Code Of Practice For Installation, Maintenance, Thorough Examination And Safe Use Of Mast Climbing Work Platforms
7. BS EN 280- Mobile Elevating Work Platforms. Design Calculations. Stability Criteria. Construction. Safety. Examinations And Tests
8. Code Of Practice On Safe Lifting Operations In The Workplaces
9. DIN 1055-4- Action On Structures – Part 4: Wind Loads
10. EN 1808- Safety Requirements On Suspended Access Equipment – Design Calculations, Stability Criteria, Construction – Tests
11. ISO 2408- Steel Wire Rope For General Purposes
12. SS 343: Specification For Lifting Gear
13. SS 567: Code Of Practice For The Factory Layout- Safety, Health And Welfare Considerations

14. SS 595: Singapore Standards For Steel Wire Ropes For Hoisting
15. SS 598: Code Of Practice For Suspended Scaffolds
16. SS 616: Code Of Practice For Safe Use Of Mobile Elevating Work Platforms

Other Relevant Areas in Access Platform Engineering

1. The applicant shall be knowledgeable in the following areas:
 - a) work platform suspended by ropes such as gondola and building management units
 - b) work platform operated by rack and pinion such as mast climbing work platform (MCWP)
 - c) hydraulic work platforms such as mobile elevating work platform (MEWP)
 - d) storage and retrieval system on rails or on wheels
 - e) work platform suspended by chains
 - f) boatswain/ bosun chair
 - g) Material hoist operated by ropes, rack and pinion or hydraulic means
 - h) Workplaces lifts operated by rack and pinion
2. The applicant shall have an in-depth understanding of the design and working principles of the lifting platform and be conversant with the essential parts of the lifting platform including:
 - a) safety devices
 - b) hydraulic system
 - c) hydraulic system
 - d) rack and pinion mechanism
 - e) tie backs
 - f) functions and controls system
 - g) boom system
 - h) turntable system
 - i) hoisting system
 - j) wire ropes
 - k) outrigger system
3. Conversant with the testing and examination of lifting platform including visual examination, functional test and load test.

Welding and Non-destructive Testing (NDT)

The applicant shall be knowledgeable in the following areas:

1. General principles of NDT
2. Typical welding methods
3. Welding process knowledge
4. Welding metallurgy
5. Typical welding faults and its identification
6. Welding codes (including ASME Codes, AWS Standards, API Standards)
7. Uses and limitations of various NDTs
8. In depth knowledge of various NDTs

Metallurgy and damage mechanism

The applicant shall be knowledgeable in the following areas:

1. Material strength and properties
2. Classification and engineering properties of metals, as well as composites
3. Various damage mechanisms
4. Heat treatment