

INTERNATIONAL STANDARD

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Automation systems in the process industry – Factory acceptance test (FAT), site acceptance test (SAT), and site integration test (SIT)

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CONTENTS

INTRODUCTION.....	5
FOREWORD.....	3
1 Scope.....	6
2 Terms and definitions.....	9
3 Abbreviations	10
4 General preparation before conducting the FAT	11
4.1 Documents typically prepared by owner/contractor	11
4.2 Documents typically prepared by vendor	11
5 Factory acceptance test	12
5.1 General.....	12
5.2 FAT test schedule	12
5.3 Test procedure.....	13
5.4 FAT rework	16
5.5 Documentation of FAT in accordance with Annex A.....	16
6 Site acceptance test.....	16
6.1 General.....	16
6.2 SAT test schedule	16
7 Site integration test	17
7.1 General.....	17
7.2 SIT test schedule	17
Annex A (informative) FAT checklists.....	18
Annex B (informative) SAT checklist	30
Annex C (informative) SIT checklist	31
Annex D (informative) FAT certificate.....	32
Annex E (informative) SAT certificate	33
Annex F (informative) SIT certificate.....	34
Annex G (informative) Automation system acceptance certificate.....	35
Annex H (informative) FAT punch list.....	36
Annex I (informative) SAT punch list	37
Annex J (informative) SIT punch list.....	38
Figure 1 – Diagram depicting typical sequence of events for FAT, SAT and SIT with respect to the project milestones	7
Figure 2 – Diagram depicting the relationship for the SAT and SIT between the DCS and subsystems.....	8
Figure 3 – Diagram depicting the relationship between the FAT, SAT and SIT with the relevant plant levels.....	9

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**AUTOMATION SYSTEMS IN THE PROCESS INDUSTRY –
FACTORY ACCEPTANCE TEST (FAT),
SITE ACCEPTANCE TEST (SAT), AND SITE INTEGRATION TEST (SIT)**

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Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

There is an increasing trend in the process industry to shorten the time period for project execution. At the same time, the complexity of automation systems is being increased due to the number of connected systems and the use of new technologies, for example, fieldbus systems.

Experience has shown that the owner, the contractor and the vendor have long and extensive discussions to unambiguously lay down the scope of activities and responsibilities in order to achieve a timely delivery and acceptance of automation systems.

This standard should lead to an improvement and acceleration of the negotiation phase and to a mutual understanding about the scope of activities of each party

The annexes of this standard contain forms which may be used in the test procedures. Buyers of this standard may copy these forms for their own purposes only in the required amount.

For application in the pharmaceutical or other highly specialized industries, additional guidelines (for example, Good Automated Manufacturing Practice (GAMP)) definitions and stipulations should apply in accordance with existing standards (for example, for GMP Compliance 21 CFR (FDA) and the Standard Operating Procedure of the European Medicines Agency (SOP/INSP/2003)).

AUTOMATION SYSTEMS IN THE PROCESS INDUSTRY – FACTORY ACCEPTANCE TEST (FAT), SITE ACCEPTANCE TEST (SAT), AND SITE INTEGRATION TEST (SIT)

1 Scope

This International Standard defines procedures and specifications for the Factory Acceptance Test (FAT), the Site Acceptance Test (SAT), and the Site Integration Test (SIT). These tests are carried out to prove that the automation system is in accordance with the specification.

Engineering and manufacturing activities prior to these tests are not covered by this standard.

The description of activities described in this standard can be taken as a guideline and adapted to the specific requirements of the process/plant/equipment. A typical sequence of activities and events is shown in Figure 1, their relationship in Figures 2 and 3.