Site acceptance test (SAT) checklist

For imported industrial equipment, starting from the FAT record. Twelve sections, with a control point for each. Updated October 2026.

01

Before the SAT is scheduled

Confirm that the site, the equipment and the people are ready before calling the supplier's engineer or the witnesses to site.

- [ ] Installation is complete and the installer has confirmed it in writing.
- [ ] Utilities are connected and available at the values the protocol needs.
- [ ] The process medium, product or load needed for the performance runs is available.
- [ ] The SAT protocol and its acceptance criteria are agreed in writing.
- [ ] The contract names who runs the SAT, who witnesses it and who signs the result.
- [ ] The supplier's commissioning engineer is booked, where the contract includes one.
- [ ] Work permits, isolation and lock-out arrangements are in place for the test.
- [ ] Calibrated instruments for the site measurements are available.
- [ ] The signed FAT report, the list of tests deferred to site and the open punch list are on site.

Control point

Schedule the SAT against a readiness check, the same way as the FAT. A test started before utilities or product are available produces a record that proves little and is often repeated at someone's cost.

02

Documents to have on site

The site team tests against the contract, the approved drawings and the factory record. Have them on site before the test day.

- [ ] Purchase order and technical specification.
- [ ] Approved drawings at their latest revision, and as-built drawings where issued.
- [ ] Signed FAT report with measured values and photographs.
- [ ] List of tests deferred from the FAT to site, with the reason for each.
- [ ] Punch items open at shipment, with the agreed close-out route.
- [ ] SAT procedure, or the commissioning and test plan that includes it.
- [ ] Electrical, control and piping diagrams for the installed configuration.
- [ ] Software, PLC and HMI backups with their version record.
- [ ] Operation and maintenance manuals.
- [ ] Conformity documents the destination requires, such as a declaration of conformity.
- [ ] Calibration certificates for the instruments used on site.
- [ ] Packing list and spare-parts list.

Control point

The FAT report is the baseline. A site result that differs from the factory value is a question to answer before acceptance, and the comparison is only possible if the factory values were recorded.

03

Delivered condition and identification

Check what arrived, and in what state, before installation starts. Transport damage found later is harder to attribute.

[ ] Packages counted against the packing list.
[ ] Shock and tilt indicators read and recorded.
[ ] Crates and units photographed before and during unpacking.
[ ] Visible transport damage recorded and notified to the carrier within the contract or policy deadline.
[ ] Serial numbers and nameplates matched against the FAT report.
[ ] Preservation checked: desiccant, corrosion protection, blanking plates and covers.
[ ] Transport locks, brackets and removed parts accounted for.
[ ] Storage before installation meets the manufacturer's conditions.

Control point

Match identity to the FAT report on arrival. The equipment tested at the factory and the equipment installed on site should be provably the same units.

04

Installation checks

Verify the installation against the drawings and the manufacturer's instructions before anything is energised or filled.

[ ] Foundation, anchoring and levelling as drawn.
[ ] Alignment checked and recorded for couplings, shafts and conveyors.
[ ] Transport locks and shipping brackets removed.
[ ] Parts removed for shipment reinstalled.
[ ] Guarding and safety covers fitted.
[ ] Earthing and equipotential bonding connected and tested.
[ ] Cable terminations, glands and segregation inspected.
[ ] Pipework connected, supported and pressure-tested where site joints were made.
[ ] Lubricants and fluids filled to the manufacturer's specification.

Control point

Record who installed the equipment and against which instructions. If the installer is not the supplier, the installation record decides who owns a later fault.

05

Utilities and site conditions as found

Measure the conditions the equipment will actually run in, and record the values on the day.

[ ] Supply voltage, frequency and phase rotation measured at the terminals.
[ ] Voltage stability and power quality recorded where the protocol requires it.
[ ] Compressed air pressure, flow and dryness measured.
[ ] Cooling water flow, pressure and temperature measured.
[ ] Drainage, ventilation and extraction confirmed.
[ ] Ambient temperature, humidity and dust conditions recorded.

Control point

Write down measured values, not datasheet values. When performance falls short, the utilities record shows whether the cause sits with the equipment or with the site.

06

Checks before energising

Repeat the safety and integrity checks that transport and installation can disturb, then compare them with the factory values.

[ ] Insulation resistance measured and compared with the FAT value.
[ ] Continuity of protective conductors confirmed.
[ ] Protection relay and breaker settings checked against the settings schedule.
[ ] Emergency stops and safety interlocks tested before energising the drives.
[ ] Software, PLC and HMI versions matched against the FAT record.
[ ] Direction of rotation checked on a short start.
[ ] Instrument zero and range checked against the datasheet.

Control point

Compare like with like: the same test, method and units as at the FAT. A large drop in insulation resistance or a changed software version is a finding, even if the value is within a general limit.

07

Functional tests as installed

Re-run the sequences checked at the FAT, now with field wiring, site utilities and the real control system.

[ ] I/O and loop checks completed from field device to control screen.
[ ] Start, stop and operating sequences run in each mode.
[ ] Interlocks and permissives triggered and confirmed.
[ ] Alarms raised and acknowledged at the operator station.
[ ] Safety functions tested end to end.
[ ] Manual, automatic and maintenance modes checked.
[ ] Each result recorded with the measured value or observation, not only pass or fail.

Control point

Run the functional tests in the protocol's order and sign each one. A test skipped because it worked at the factory is the one that fails in production.

08

Performance under site conditions

Prove the contractual performance with the real medium, at the agreed capacity, for the agreed duration.

[ ] Tests deferred from the FAT carried out and recorded.
[ ] Output or throughput measured at the contractual rating.
[ ] Product quality or process parameters measured against the specification.
[ ] Energy, air, water and consumable consumption measured where guaranteed.
[ ] Noise and vibration measured where specified.
[ ] Sustained run completed for the agreed duration without unplanned stops.
[ ] Actual site conditions during the run recorded beside the results.

Control point

Tie each guarantee to a measured result. Where a guarantee could not be tested, record why and agree a date for it, so it does not quietly lapse at acceptance.

09

Integration with the plant

Check the equipment as part of the line or system, across the boundaries between suppliers. Some contracts call this the site integration test (SIT).

- [ ] Signal exchange with upstream and downstream equipment confirmed.
- [ ] Communication with the plant control system or SCADA confirmed.
- [ ] Safety circuits that cross supplier boundaries tested together.
- [ ] Behaviour on loss of power, air or communication checked.
- [ ] Restart after a stop or a power cut checked.

Control point

Name one party responsible for each interface. Integration faults between two suppliers stay open longest when each can point to the other.

10

Punch list and non-conformities

Record every finding in one list, classify it, and agree how each will be closed before anyone signs.

- [ ] Each finding described with evidence: photograph, value or log.
- [ ] Each finding classified as blocking acceptance or not.
- [ ] An owner and a due date set for each item.
- [ ] Retest required for each item that affected a test result.
- [ ] Cost allocation recorded as the contract sets, usually by root cause.
- [ ] Closure evidence attached before the item is marked closed.

Control point

Separate items that block acceptance from items that can close after it, and attach that list to the acceptance record. An item left off the list at signing is hard to raise later.

11

Training, documentation and handover

Confirm that the people who will run and maintain the equipment can do so, and that they have the records.

- [ ] Operator training delivered and attendance signed.
- [ ] Maintenance training delivered and attendance signed.
- [ ] Final manuals and as-built drawings received.
- [ ] Software backups and passwords handed to the owner.
- [ ] Commissioning spares, special tools and consumables received against the packing list.
- [ ] Warranty terms and the date they start confirmed as the contract sets.

Control point

Handover is part of the SAT record. Training and documents promised in the contract are easiest to obtain before the acceptance is signed.

12

SAT result and acceptance record

Close the SAT with a written result that states what was accepted, on what evidence, and what remains open.

- [ ] Result recorded for each test, with measured values.
- [ ] Decision recorded: accepted, accepted with listed punch items, or not accepted.
- [ ] Open items listed on the record with owners and dates.
- [ ] Signed by the party the contract names for site acceptance.
- [ ] Contractual effects noted where the contract assigns them: final payment, warranty start, transfer of care.
- [ ] SAT report and records distributed to the owner, the supplier and the installer.

Control point

Sign for what was tested. A signature tied to named results and a named punch list protects both sides; a blanket acceptance can start the warranty and release the last payment with problems still open.

Full version, with guidance: sinospect.com/resources/site-acceptance-test-checklist