Three-Way Match: Reconciliation of Purchase Order, Goods Receipt and Invoice

The three-way match is a verification procedure in the procurement process in which the purchase order, goods receipt and invoice are systematically checked for consistency. Only when all three documents match within the agreed tolerances is the invoice released for payment. The procedure is one of the key internal controls in order management and protects companies against incorrect payments, duplicate invoices and fraud. In practice it is frequently carried out electronically in the ERP system and, using standards such as cXML, can be largely automated.

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Key facts at a glance

01 The three-way match checks the consistency of purchase order, goods receipt and supplier invoice.

02 Typically, quantities, prices, units and delivery terms are checked within defined tolerances.

03 Only after a successful reconciliation is the invoice released and paid.

04 Common tolerance values in practice are around 1–5 per cent price and quantity deviation.

05 Automated matching frequently reduces processing time per invoice considerably.

06 A two-way match (purchase order against invoice) is used mainly for services and advance payments.

Definition: Three-Way Match

The three-way match refers to the three-way reconciliation of order data with receipt data and invoice data. The aim is to pay only those invoices that actually relate to goods or services ordered, in the

ordered quality and quantity, and that were invoiced correctly. The procedure is a core element of the process and control architecture in procurement and finance.

Distinction from the Two-Way Match

In a two-way match, only two documents are compared, usually the purchase order and the invoice. This approach is typical for services, licence fees or framework settlements where there is no physical goods receipt. It carries a higher risk, as the actual provision of the service is not objectively documented. For this reason, it is advisable to supplement services with an acceptance or service confirmation issued by the requesting department, which serves as substitute evidence for the goods receipt.

Distinction from the Four-Way Match

In a four-way match, the quality inspection is added as the fourth document, for example an inspection report, a Certificate of Conformity or a measurement protocol. This procedure is used primarily in regulated industries and for safety-critical parts where payment may only be released after a passed incoming inspection. It increases the checking effort but offers significantly stronger protection against processing and paying for non-conforming goods.

Methods and Approach in the Three-Way Match

The procedure follows a clear logic: first order, then receive, then check, then release. Each step generates a document with a unique reference, such as the order number. Only via these references can the three data sets be automatically linked and compared.

Data Basis and References

The basis is the order data from order management, the posted goods receipt and the supplier invoice. It is crucial that the same references appear on all documents: order number, line item number, material number and, where applicable, delivery note number. Missing references are the most common cause of manual exception cases. With electronic invoices or cXML-based processes, this data is transmitted in a structured form, which significantly increases the hit rate in automatic matching.

Tolerances and Matching Rules

In practice, minor deviations are accepted via tolerance rules, for example a price corridor of typically one to five per cent or defined over- and under-delivery quantities. Tolerances should be defined more granularly by material group, supplier and category governance: critical parts receive tight tolerances, standard items wider ones. Every tolerance rule must be documented and justified in an audit-proof manner so that auditors can understand the control effect.

Exception Case Handling

Invoices without a match end up in the exception case process and are usually assigned to the buyer or goods receipt department with a deadline. A structured procurement approval workflow defines who

resolves deviations, which approvals are required and from what amount the approval level changes. Regular follow-up is important: invoices with overdue exception cases can cause early-payment discount losses, payment reminders and, in the case of third-party services, commitment deadline problems with subsidies or framework agreements.

Key KPIs for the Three-Way Match

The quality of the matching process can be measured well. The key figures show how much automation exists and where structural data problems lie.

Match Rate and First Match Rate

The match rate indicates the proportion of invoices that are reconciled entirely automatically. The first match rate measures the proportion that passes through on the first run without manual intervention. In practice, values well above 90 per cent are considered ambitious; mature processes with electronic invoices achieve higher values. Low rates usually indicate missing order references, open framework orders or unclear item master data.

Exception Case Rate and Processing Time

The exception case rate puts unmatched invoices in relation to the total volume, and the average processing time shows the duration until release. High exception case rates tie up resources and worsen the payment run. Also useful are the proportion of positive releases after exception cases, in order to identify unnecessary blockages, and the number of duplicate invoices submitted, which matching should in principle uncover.

Savings Pipeline and Compliance Effects

A stable matching process also safeguards the validity of the savings pipeline: only if actually delivered quantities and actually paid prices are recorded can bonus agreements, contract compliance and savings be reliably evidenced. Contract compliance can be measured directly on the match by reconciling paid prices against contract prices. Deviations flow into the risk register and supplier evaluations.

Risks and Controls in the Three-Way Match

Without effective reconciliation, companies face incorrect payments, duplicate invoices, payments for goods not delivered and collusion risks between requisitioner, supplier and invoice issuer. The three-way match is therefore both a preventive and a detective control.

Typical Weaknesses

Common weaknesses are fictitious or manipulated invoices, invoices without an order reference, partial deliveries incorrectly posted as complete deliveries, and services without a measurable goods receipt. Consignment stock also requires special treatment: invoicing may only take place upon withdrawal, not

upon delivery. Anyone who does not map this pays for material that is still sitting in the supplier's warehouse.

Control Architecture and Audit

Effective controls combine automated tolerance checks with sample-based manual reviews and a documented audit checklist. Duties should remain segregated: whoever places orders should not give approval; whoever posts the goods receipt should not release invoices. In cases of irregularities, the 5 Whys method helps with root cause analysis; for systemic risks, bow-tie analysis supplements the assessment of impacts. Substantiated deviations belong in the risk register.

Legal and Tax Classification

The three-way match supports the eligibility of supplier invoices for input tax deduction, as it documents the provision of the service, and serves as evidence in the context of commercial and tax audits. The specific requirements differ depending on the legal jurisdiction and transaction and should be assessed on a case-by-case basis by tax advisers or auditors. The retention periods for the documents must be defined accordingly and implemented in an audit-proof manner.

Current Developments: Automation and Integrated Processes

The manual reconciliation of documents is increasingly being replaced by software. The direction is clear: electronic purchase orders, electronic invoices, structured data exchange formats and, increasingly, intelligent analysis of exception cases.

Electronic Processes and cXML

Using standard formats such as cXML or company-specific IT interfaces, order data and receiving confirmations flow in a structured manner between the systems of buyer and supplier. This enables a largely paperless, automated match. Data quality on both sides is crucial for success: unambiguous item numbers, correct units and consistent prices. Suppliers who fail to meet these requirements cause permanent exception cases and should be included in supplier development.

Integration into Procurement Logistics and Inventory Control

The match is closely interlinked with procurement logistics and inventory optimisation. The goods receipt provides the actual quantities, which in turn influence inventory planning and capacity planning. With consignment stock or in-plant material flow, the reconciliation must be synchronised with the physical withdrawal. A clean match therefore also provides reliable data for demand planning and the consensus forecast between procurement, logistics and sales.

Sourcing Strategy and Supplier Management

Match data provides insights for the sourcing strategy: suppliers with permanently high deviation rates increase process effort, regardless of their unit price. This argument belongs in the total cost assessment of a commodity strategy and in the evaluation of the dual-sourcing ratio. For service

suppliers, service-level SLAs and defined acceptance processes complement the match; for physical goods, the subsidiary offer and requirements management at the start of the chain.

Implementing the Three-Way Match Correctly: Practical Guidance

Implementation works best step by step and with clear responsibilities. The decisive factors are the combination of data quality, clear rules and a well-organised exception case process.

Getting Started with C-Parts and Standard Processes

It is recommended to start with standardised, high-volume categories such as C-parts, office supplies or simple supply items. Here the tolerance rules are simple, data quality is high and the automation effect is visible. More complex categories with line-item relevance, tool specifications or customer-specific acceptances follow in a second step. In parallel, requirements management should be set up so that purchase orders are only created via the system and only with a reference.

Training and Change

Buyers, goods receipt and accounts payable must know the rules and apply them consistently. Short training sessions, a documented audit checklist for exception cases and clear escalation paths prevent exceptions from becoming the norm. Feedback loops are also important: frequent exception cases with certain suppliers or item groups are a signal that should be fed back into supplier development and supplier management.

Typical metrics

Metric	Typical value
First Match Rate	> 90% *Proportion of invoices matched automatically and without manual intervention*
Exception Case Rate	< 10% *Proportion of unmatched invoices relative to the total volume*
Average Processing Time	1–3 days *From invoice receipt to release in an automated process*
Price Tolerance	1–5% *Typical guideline value, to be adapted by category and supplier*

Practical Example

A medium-sized mechanical engineering company with around 40,000 supplier invoices per year had a high exception case rate and considerable early-payment discount losses. After introducing a

structured three-way match with tolerance rules and electronic order references, a significant reduction in manual checks became apparent within one year.

- Requirement for an order reference on every supplier invoice; no reference, no acceptance
- Differentiated tolerances: tight limits for A-parts, wider limits for C-parts
- Exception case process with deadlines, clear responsibilities and weekly reporting
- Connection of top suppliers via structured data exchange formats

Conclusion

The three-way match is more than an accounting routine: it safeguards payment integrity, supports compliance and provides reliable data for procurement logistics, inventory optimisation and supplier management. High levels of automation require clean master data, unambiguous references and clearly defined tolerance rules. Exception cases should be handled in a structured way and fed back into supplier management. Those who consistently implement the process reduce incorrect payments, shorten cycle times and strengthen their negotiating position with sound figures.

Frequently asked questions

? What is a three-way match?

The three-way match is the reconciliation of purchase order, goods receipt and supplier invoice prior to payment release. Quantities, prices, units and terms are checked within defined tolerances. Only matched invoices are paid.

? Which three documents are compared in a three-way match?

The purchase order or framework agreement, the goods receipt or receiving confirmation, and the supplier invoice are compared. For services, a service confirmation or acceptance certificate frequently replaces the goods receipt. In quality inspections, an inspection report is added as a fourth document; this is then referred to as a four-way match.

? What is the difference between two-way, three-way and four-way match?

The two-way match compares only the purchase order and the invoice and is used mainly for services. The three-way match includes the goods receipt and is the standard for physical goods. The four-way match adds the quality inspection and is used for safety-critical or regulated parts.

? Which tolerances are common in a three-way match?

In practice, price tolerances are typically between one and five per cent, and quantity tolerances between zero and ten per cent depending on the material group. The specific values depend on the category, supplier and risk assessment. It is important that tolerances are documented and justified in an audit-proof manner.

? How does an automated three-way match work in an ERP system?

The ERP system links purchase order, goods receipt and invoice via shared references such as order and line item numbers. If the data matches within the tolerances, automatic release takes place; otherwise the invoice becomes an exception case. Electronic invoices and structured interfaces significantly increase the automatic match rate.

? When is a three-way match not appropriate?

For services, licence fees, rent payments or advance payments there is no classic goods receipt; here a two-way match with an additional service confirmation is customary. The consignment stock process also needs to be adapted, since only withdrawal triggers invoicing. In such cases, the procedure should be explicitly defined before implementation.

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