Material groups: structure and strategy in technical procurement

Material groups are a systematic structuring of all of a company's procurement objects according to technical, commercial or logistical commonalities. They form the backbone of materials management and enable buyers to control demand in bundled form, assign suppliers in a targeted manner and evaluate KPIs meaningfully. In practice, classifications range from simple ABC analyses to multi-level commodity group hierarchies with hundreds of groups.

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Key facts at a glance

01 Material groups classify procurement objects according to common characteristics such as material type, technology or intended use.

02 They are the foundation for bundling levers, supplier portfolios and sound sourcing strategy decisions.

03 Typically, a responsible buyer (group buyer) and preferred suppliers are defined per material group.

04 Classifications such as ABC or XYZ analysis complement the material group logic with commercial and inventory control aspects.

05 In the ERP system, the material group is often a mandatory field and drives account assignment, reporting and demand notification processes.

06 A cleanly maintained group structure improves the traceability of materials and the meaningfulness of KPIs such as service level.

Definition: material groups

Material groups (also commodity groups, article groups or commodity groups) denote, in procurement and materials management, the grouping of materials, components and services into substantively related classes. The grouping usually follows technical criteria such as material type or manufacturing process, but can also be based on consumption or contract considerations.

Distinction from commodity baskets and material classes

The material group is one of several classification levels. While the material master describes every individual item with its own material number, the material group bundles many of these items under an umbrella term – such as 'standard parts' or 'aluminium castings'. Above it are material areas or commodity baskets, below it sometimes finer sub-groups. What is decisive is that the hierarchy is used consistently throughout the entire procurement process, from demand notification through the tender to procurement controlling.

Importance for the organisation

Material groups structure not only data but also responsibilities. Many companies assign category owners to each group area who manage price negotiations, supplier development and bundling levers for 'their' groups. This turns procurement from a reactive demand processor into a strategic portfolio manager. Typically, the group delineation is such that technically similar parts involve the same suppliers and processes – a prerequisite for effective bundling.

Methods and approach for material grouping

Building a material group structure follows a few proven steps: stocktaking, classification, hierarchy formation and periodic maintenance. It is important that technical logic and commercial control do not get in each other's way.

Choice of criteria: technical, market-oriented or hybrid

First, it must be clarified according to which guiding criterion the grouping is done. Purely technical approaches sort by material type, process or function – good for engineering and drawing-based awarding. Market-oriented approaches follow supplier markets and price formation, for example with raw materials subject to price indexing. In practice, a hybrid structure has often proved successful: technical main groups with market-side characteristics such as number of suppliers or contract form.

ABC and XYZ analysis as a complement

The classic ABC analysis sorts material groups by value impact, the XYZ analysis by demand pattern and plannability. Combined, they create fields of action: A-X groups (high value, stable demand) lend themselves to framework agreements and bundling, C-Z groups to catalogue procurement or no-touch order. These methods do not replace material groups but refine them into an operational control logic that also informs safety stock calculation per group.

Maintenance and governance

Material group structures become outdated quickly if new technologies, suppliers or legal requirements are not reflected. A firm governance has proved its worth: clear assignment rules for new material numbers, annual review of group delineations and a central function that removes duplicates and pseudo-classes. Without this maintenance, data quality declines, and evaluations of service level or delivery performance lose their meaningfulness.

Material groups in the procurement process

Material groups cut across the entire procurement process: they steer request creation, supplier selection, contract logic and inventory control. Those who treat groups as strategic objects can meet demand earlier and more cost-effectively.

Demand determination and tendering

Every demand notification should invariably contain a material group so that demand automatically reaches the responsible buyers and framework agreements. For groups with many small quantities, catalogues or no-touch order processes are suitable; strategic groups, by contrast, go through structured tenders. Group membership therefore typically also determines lot sizing and whether parts are awarded individually or as a bundle.

Supplier assignment and contract structure

Per material group, a supplier portfolio is often maintained: preferred suppliers, alternative sources and possibly single-source management for critical items. For groups with volatile raw material prices, price revision clauses or price indexing can be contractually anchored. Framework agreements, call-off control and vendor managed inventory (VMI) can also be defined per group – particularly useful for C parts with high handling effort.

Interfaces to logistics and quality

Material groups also influence logistical and quality regulations. At the incoming inspection of series parts, inspection intensity and control plan requirements are often defined per group; for groups relevant to series production, delivery date commitments and lead times are also in focus. For long supply routes, assessing supplier location risk per group is standard practice in order to identify potential failure sources early.

Key KPIs and evaluation by material group

KPIs only unfold their effect when evaluated by group. Material groups form the natural reporting level between individual material and overall procurement.

Classic procurement KPIs per group

Typical KPIs are savings, price variance against budget, service level, delivery performance and share of single source. The number of active suppliers per group also reveals bundling potential: many suppliers at high volume usually point to unused bundling levers. Cost transparency can be deepened with a cost breakdown per group, for example for labour shares, material shares or energy items.

Reporting and procurement controlling

In procurement controlling, material groups serve as a filter dimension: buyers can see which groups deviate from budget, which framework agreements are expiring or where price adjustment clauses

apply. It is important that reports are structured by group rather than by cost centre, as only then can market-oriented actions – negotiation, alternative sourcing, indexing – be derived.

Group-relevant inventory control KPIs

The group perspective also matters in inventory control: cover, safety stock and service level can be managed per group rather than looking at hundreds of individual materials one by one. For heterogeneous groups with very different lead times, further differentiation into sub-groups is advisable, otherwise average figures convey a false sense of security.

Risks and controls for material groups

Material groups are a powerful control instrument, but not a walk in the park. Faulty delineations, unclear responsibilities and data debris significantly reduce their benefit.

Typical sources of error

Common problems are overly coarse groups ('other' residual class with high volume), duplicate classifications caused by decentralised creation of materials and missing assignment of services. Technical changes – such as switching from steel to plastic components – also make regrouping necessary. Anyone who also maps tools or fixtures using the same structure should document this clearly, as contractual details under a contract for work and services are assessed differently from pure supply of goods.

Controls and data quality

Effective controls are mandatory field logic when creating materials, regular duplicate and residual class evaluations, and a change procedure for group changes. Traceability of materials – for example for critical components – also requires that qualification and approval statuses are cleanly documented per group. Only then can supplier location risks and failure scenarios be assessed reliably.

Managing supplier risks per group

Per group, it should be known how critical the supply situation is: number of qualified suppliers, regional risks, dependencies on upstream products. For groups with a high risk of failure, second source development, strategic alliances or increased safety stocks are suitable. This assessment belongs routinely in the procurement process and should not be carried out only in a crisis.

Current developments around material groups

Material groups are becoming more dynamic due to digitalisation, sustainability requirements and more volatile procurement markets. Static classifications are increasingly insufficient.

Automated classification

Modern systems now support classification partially automatically, for example through pattern

recognition in material texts or enrichment via standard elements. This reduces manual effort and improves consistency, but does not replace the expert review by the buyer. Particularly for existing legacy data, a step-by-step clean-up is more realistic than a complete overhaul.

Sustainability and reporting obligations

For sustainability requirements such as supply chain due diligence or CO accounting, material groups are a practical lever: risks and emissions can be assessed by group rather than checking every article individually. Material-intensive groups such as metals, plastics or electronics typically come into focus first.

Category management becoming more professional

In many companies, material group management and category management are increasingly converging. Market prices, price indexing and supplier markets are monitored per group; data platforms and B2B marketplaces facilitate access to new suppliers and benchmark prices. The material group thus becomes the operational unit in which sourcing strategy, budgeting and bundling levers converge.

Typical metrics

Metric	Typical value
Service level per material group	typically > 98% *Group-based evaluation shows supply security per class*
Number of suppliers per group	typically 2–5 qualified sources *Many suppliers at high volume indicates unused bundling potential*
Share of residual/other class	< 5% of volume *High residual class shares indicate data quality problems*
Delivery performance	typically > 95% *On-time delivery per group complements the service level*
Savings per material group	typically 2–10% p.a. through bundling *Rule of thumb; strongly dependent on the starting situation and market conditions*

Practical example

A medium-sized mechanical engineering company with around 25,000 active material numbers discovered during an evaluation that over 30% of its purchasing volume was sitting in the residual class 'Other' and was being served by more than 200 small suppliers. After a clean-up of the material group structure – technical main groups, market-oriented sub-groups, clear mandatory field logic – demand became visibly consolidated. Within one year, the supplier base in the standard parts and sheet metal

working groups was noticeably consolidated, framework agreements with price adjustment clauses were concluded and C parts were switched to catalogue procurement with no-touch order.

- Clean-up of the material group hierarchy and a mandatory group assignment for every new material record
- ABC/XYZ analysis per group to define procurement strategy and lot sizing
- Consolidation of volume and conclusion of framework agreements with indexed prices
- Group-based reporting of service level and delivery performance in the monthly procurement review

Conclusion

Material groups are far more than an organisational attribute in the material master: they determine how demand is bundled, suppliers are assigned, contracts are designed and KPIs are interpreted. A cleanly maintained structure reduces processing effort, creates transparency over costs and risks and makes bundling potential visible. The prerequisites are clear criteria, disciplined data maintenance and firm governance. Companies that manage their material groups strategically decide faster, negotiate from a better-informed position and maintain supply security even in volatile markets.

Frequently asked questions

? What is a material group in procurement?

A material group combines materials and services with common characteristics – such as material type, function or supply market – into a single class. It serves as a structural and control level within the procurement process. Typically, responsibilities, supplier portfolios and contract rules are assigned to it.

? How many material groups are sensible?

It depends on the industry, the variety of materials and the system landscape; in practice, small companies manage with a few dozen groups, while large corporations use multi-level hierarchies with hundreds of classes. What matters is that no high-volume residual classes arise and that every group has a clear owner. Fewer, but cleanly maintained groups are preferable.

? What is the difference between a material group and a commodity group?

Both terms are often used synonymously. Strictly speaking, 'commodity group' originates more from the retail context, whereas 'material group' is common in manufacturing and ERP systems. In substance, both mean the grouping of similar procurement objects into a class with shared control logic.

? How do I create a material group structure?

First, all materials and services are captured and classified according to guiding criteria such as material type, process or supply market. On this basis, a hierarchy of main and sub-groups is

created, supplemented by ABC/XYZ assessments. Finally, governance rules, mandatory fields in the ERP and a regular maintenance cycle must be defined.

? Why are material groups important for KPIs?

KPIs such as service level, delivery performance or savings are too granular at individual material level and too coarse at corporate level. Material groups provide the right intermediate level for identifying causes and assigning actions. Price indexing and cost breakdown, too, can only be meaningfully evaluated per group.

? What role do material groups play in supplier selection?

Material groups define the relevant supplier market: per group, qualified suppliers, alternative sources and possibly single-source risks are maintained. Bundling levers arise when demand within a group is consolidated and awarded as a bundle. This makes supplier selection a strategic rather than a case-by-case decision.

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