

Material group hierarchy: a structure for sound commodity group management in procurement

The material group hierarchy is the structured framework with which companies classify their procured materials, parts and services into higher-level and lower-level commodity groups. It creates a uniform classification language between procurement, engineering, warehousing and materials planning. Those who build and maintain it properly can bundle procurement volumes transparently, manage suppliers in a targeted manner and implement procurement strategies effectively.

Key facts

- The material group hierarchy arranges materials into multi-level tiers (typically 3 to 4 levels) from the top-level group down to the individual material.
- It forms the basis for spend analyses, ABC/XYZ classification cycles and the derivation of procurement strategies by commodity group.
- Common standards include SACH group systems in ERP, UNSPSC, eCl@ss and ETIM; in practice, compatibility with your own ERP is the deciding factor.
- Without maintenance of the hierarchy, duplicates, fragmented volumes and distorted supplier evaluations loom.
- A data steward or commodity group owner role should be clearly assigned to ensure data quality in the long term.

Definition: material group hierarchy

The material group hierarchy is a multi-level classification system that assigns all procurable materials and services to commodity groups and sub-groups according to factual criteria. Every material is uniquely assigned via a material group number, so that analyses, strategies and processes all operate on the same basis.

Distinction from commodity groups and material classes

Commodity group often refers to a single level, whereas the hierarchy encompasses the entire system of top-level groups, groups and sub-groups. Material classes, in turn, classify objects by attributes (characteristics), not merely by group membership. In practice, the two approaches complement each other: the hierarchy for reporting and management, the classes for specification and search.

Typical levels and the SACH system

Many systems work with three to four levels: top-level group (e.g. steel and metal semi-finished products), group (e.g. round bar steel), sub-group (e.g. free-cutting steel) and, where applicable, a fine level for speciality materials. Historically grown SACH group systems with four-digit numbering are

widespread in German mechanical and plant engineering. What matters is that each level has clear, non-overlapping delimitation criteria.

Unambiguity, consistency, interoperability

A usable hierarchy meets three requirements: every material belongs to exactly one group (unambiguity), the assignment logic is documented and traceable (consistency), and the structure can be connected to systems such as e-procurement catalogues, supplier portals or classification standards (interoperability). Only then can the hierarchy serve as a uniform reference system.

Structure and methods: how to organise the hierarchy

Building a material group hierarchy is a structured project involving analysis, design, migration and maintenance. An approach that first analyses the existing material range and then defines the depth of structure and criteria together with the business departments has proven effective.

As-is analysis and target structure

First, all existing material masters, purchase order items and historical spend are evaluated according to existing groupings. Spend clustering shows which areas are high-volume, highly fragmented or recorded twice. Building on this, a target structure with a defined number of levels, naming conventions and numbering logic is designed.

Leveraging classification standards

Industry standards such as eCl@ss, ETIM or UNSPSC provide professionally maintained structures and extension proposals. In practice, a hybrid solution is recommended: an own, compact top-level structure for procurement management, mapped to a standard for data exchange and catalogues. This keeps the internal hierarchy lean while remaining interoperable.

Migration and roll-out

During migration, legacy material masters are assigned, duplicates are cleansed and the assignment logic is documented in the data quality report. A phased roll-out by business unit reduces risk. Training for material creation and materials planning ensures that new parts are correctly classified from the outset.

Application in procurement: volume bundling and strategy derivation

The real benefit of the material group hierarchy emerges in its application: it is the framework on which volumes are analysed, suppliers are assigned and strategies are derived. Without a sound hierarchy, commodity group management remains a matter of gut feeling.

Spend analysis and ABC/XYZ classification

Based on the hierarchy, spend can be consolidated by top-level and sub-group. Combined with a regular ABC/XYZ classification cycle, this reveals which groups carry strategic weight and which planning profiles (steady, seasonal, lumpy) they exhibit. This forms the basis for prioritising resources in procurement.

Supplier assignment and supplier strategy

Every supplier is assigned to the commodity groups they supply. This reveals how large a supplier's share of procurement volume is per group and where duplicate sourcing or dependencies exist. From this, procurement develops a supplier strategy per commodity group, defining single, dual or multi-sourcing.

Procurement strategy and commodity group roadmap

A procurement strategy is defined for each material group: bundling, global sourcing, local-for-local or outsourcing of services. A commodity group roadmap prioritises the handling of the groups by potential and effort. The hierarchy makes this planning verifiable, because progress (e.g. consolidation of suppliers per group) becomes measurable.

Budgeting and detailed procurement capacity planning

The hierarchy also serves as a planning framework: budgeting sets target values per material group, while detailed procurement capacity planning assigns category owners and their workload. This enables the head of procurement to check whether the depth of handling matches the potential of the groups.

Key KPIs of the material group hierarchy

The quality of the hierarchy can be measured. Suitable KPIs show whether the structure is fully maintained, anchored in the processes and used effectively for steering.

Data quality and assignment rate

Key metrics are the proportion of material masters with a valid group assignment, the number of duplicates and the proportion of materials in catch-all or dummy groups. A regular data quality report makes developments visible and creates pressure for continuous cleansing.

Consolidation and steering effects

Impact metrics include, for example, the number of active suppliers per material group, the volume share of the top 3 suppliers per group and the number of groups with a defined procurement strategy. The lead time of material creation and the rate of new materials without adequate group documentation also show how firmly the hierarchy is anchored in day-to-day operations.

Risks and controls: typical pitfalls

Common problems arise not during set-up but in ongoing maintenance. The hierarchy loses its value when assignments become inconsistent or the structure drifts away from reality.

Catch-all groups and duplicates

Overly broad catch-all groups conceal the actual structure; too many fine sub-groups create intransparency. Duplicates of the same part under different group numbers fragment volumes and distort supplier evaluations. Controls: regular deduplication, clear boundary criteria per level and a review loop with materials planning.

Historically grown structures

After mergers, system migrations or a long company history, several overlapping systems often exist. These should not be maintained in parallel but merged into a cleansed target structure. The

organisational procedures must clarify who creates, changes and approves groups – without clear roles, organically grown groups reappear.

Lack of integration into processes

The hierarchy is only useful if it is integrated into operational processes: into materials planning, e-procurement catalogues, the supplier portal and supplier performance evaluation. If it is maintained merely as a reporting framework, upkeep dries up. Control: mandatory fields in the material creation process and reports that make deviations immediately visible.

Current developments: automation and AI-supported classification

Digitalisation is changing how material group hierarchies are handled. Classic manual assignment is increasingly being supplemented by automated classification and interfaces to standardised data models.

Automatic classification using text analysis

Modern tools use rules and machine learning to assign new material masters automatically to a material group based on description and attributes. In practice, such approaches achieve high hit rates for clearly named parts but still require human review for ambiguities. The data steward remains responsible for final approval.

Catalogue-based e-procurement and standardised data

In e-procurement with catalogues and punch-outs, the hierarchy continues as the navigation for buyers. Classification standards and standardised attributes reduce the effort of maintaining supplier catalogues. Those who can map their internal hierarchy to an official standard integrate new suppliers considerably faster.

Transparency as a prerequisite for resilience

Supply chain crises and sustainability requirements have increased the value of clean material group data: only via a consistent hierarchy can supplier risks, critical raw materials and emissions data be systematically captured by commodity group. The hierarchy thus becomes a prerequisite for compliance reporting and early risk detection in supplier management.

Typical metrics

Material master assignment rate: > 99 %

Proportion of materials with a valid material group; in well-maintained systems, virtually complete.

Duplicate rate in the material master: < 2 %

Proportion of parts created more than once; typical value for cleansed master data.

Active suppliers per material group: 1–5 per strategic group

Few suppliers mean bundling but also dependency risks – assess in the context of the supplier strategy.

Proportion of groups with a defined strategy: > 80 %

Proportion of high-volume groups with a defined procurement strategy and commodity group roadmap.

Practical example

A mid-sized mechanical engineering company with around 40,000 material masters discovered during a spend analysis that identical motor mounts were recorded under three different material groups. The volume was spread across four suppliers, with no single volume offering any negotiating leverage. After cleansing the material group hierarchy and consolidating the data, procurement was able to renegotiate.

- Cleansing of the hierarchy to 3 levels with clear delimitation criteria per group
- Introduction of a data steward role with an annual data quality report
- ABC/XYZ classification cycle to prioritise commodity group work
- Derivation of a commodity group roadmap with consolidation targets per group

Conclusion

The material group hierarchy is far more than an administrative ordering solution in the ERP: it is the framework on which spend, suppliers and strategies are consistently managed in procurement. Those who build it in a structured way, document it clearly and anchor it in their processes gain transparency over volumes and supplier definitions. What matters is ongoing maintenance – with a clear allocation of roles, regular quality reports and integration into operational processes. The investment pays off over several years, because every analysis, negotiation and strategy rests on the same reliable basis.

Frequently asked questions

What is a material group hierarchy?

A material group hierarchy is a multi-level classification system that assigns all procured materials and services to commodity groups and sub-groups. It creates a uniform classification language for procurement, materials planning and controlling. It typically comprises three to four levels, from the top-level group down to the fine sub-group.

Why does procurement need a material group hierarchy?

Without a hierarchy, spend on the same material is scattered across many departments, which fragments negotiation volume and conceals duplicate sourcing. The hierarchy enables volume bundling, targeted supplier strategies and measurable management by commodity group. It also forms the basis for ABC/XYZ classification and budgeting.

What standards exist for material grouping?

Well-known standards include eCl@ss, ETIM and UNSPSC; in the German ERP environment, SACH group systems are also widespread. In practice, a compact internal hierarchy mapped to one of the standards is often recommended. This keeps your own structure lean while remaining interoperable.

How many levels should a material group hierarchy have?

In practice, three to four levels have proven effective: top-level group, group, sub-group and optionally a fine level for speciality materials. Too few levels produce broad catch-all groups; too many create intransparency. The right depth depends on the product range and reporting requirements.

Who is responsible for maintaining the material group hierarchy?

Typically, a data steward or a commodity group owner role within procurement takes on coordination, while material creation is handled by a defined role with an approval process. It is important that the

organisational procedures define clear responsibilities for creating, changing and approving. Without clear ownership, ad hoc groups quickly proliferate again.

How often should the material group hierarchy be maintained?

New materials should be correctly assigned at the point of creation; a comprehensive review of the structure is typically useful once a year. A regular data quality report reveals duplicates, catch-all groups and missing assignments. Ad hoc reviews are appropriate in the event of mergers, system migrations or range extensions.