WISINE Fasteners & Metal Supply

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Material Review Support Document

Material Substitution Review Checklist

Factors to Confirm Before Considering an Alternative Grade

Next Step

Send Drawing for Quote | Prepare Material RFQ Details

Strong Warning

Material substitution should not be assumed from similar trade names, material families or corrosion descriptions.

Any proposed alternative grade must be reviewed against the applicable standard, drawing, material properties, environment, certificate requirement, and final application.

Material Substitution Review Checklist Table

Review Field	Buyer / Engineer Notes
Original specified grade	State the exact grade required by drawing, standard, purchase specification, or project document.
Proposed alternative grade	State the proposed alternative grade and reason for review.
Standard comparison	Compare applicable ASTM, ASME, EN, DIN, ISO, or project specification requirements.
UNS / EN / ASTM designation	Confirm official designation and avoid relying only on trade names.
Chemical composition review	Compare composition requirements from the applicable standards or project documents.
Mechanical property review	Compare tensile strength, yield strength, elongation, hardness, or other specified mechanical requirements when applicable.
Heat treatment condition	Confirm condition, aging, solution treatment, quench and temper, annealing, or other required condition.
Corrosion environment	Review chloride, chemical, outdoor, marine-adjacent, acid, alkaline, or other service conditions.
Temperature environment	Review high-temperature, low-temperature, cycling, or project-specific temperature conditions.
Product form	Confirm whether the alternative is available or feasible in the required bar, plate, tube, wire, fastener, or drawing-based form.
Drawing requirement	Confirm dimensions, tolerances, notes, material callouts, and revision status.
Certificate requirement	Confirm whether certificate type, traceability, EN10204 3.1, or EN10204 3.2 is required.
Inspection requirement	Confirm PMI, dimensional inspection, third-party inspection, or project-specific inspection needs when applicable.
Final application	Review the actual application before considering any material change.
Customer / engineer approval requirement	Confirm whether buyer, project engineer, or specification authority approval is required.

Substitution Risk Examples

316 vs 316L

316 and 316L should not be treated as identical in every case. Carbon content, welding considerations, certificate requirements, standard callouts, and project specifications must be reviewed.

2205 vs 2507

Duplex 2205 and super duplex 2507 should not be assumed to replace each other. The decision depends on standard, corrosion environment, mechanical requirements, product form, and application.

Inconel 625 vs Hastelloy C276

Inconel 625 and Hastelloy C276 are different nickel alloy references. Substitution must be reviewed according to chemical environment, grade standard, mechanical requirements, certificate need, and final application.

17-4PH Heat Treatment Conditions

17-4PH / SUS630 performance and suitability depend on heat treatment condition and specification. The required condition should be clearly stated before quotation.

ASTM A193 B7 vs B7M

ASTM A193 B7 and B7M should not be assumed to be interchangeable. Mechanical properties, hardness limits, coating, service condition, and project requirements should be reviewed.

Approval Note

Final substitution decision should be confirmed by the buyer, project engineer, or applicable specification authority. This checklist supports RFQ review only and does not approve any substitute material.