

QUALITY & COMPLIANCE: UNDERSTANDING EN 10204 3.1 VS. 3.2 MATERIAL TEST REPORTS

A Certification Guide for Mission-Critical Components by ForceBeyond

When procuring high-performance alloys and precision-engineered components, physical dimensions are only half the equation. The underlying chemical composition and mechanical properties of the raw material must be rigorously verified. In highly regulated industries like aerospace, subsea oil and gas, and chemical processing, a catastrophic failure caused by subpar material is unacceptable.

This verification is provided through a **Material Test Report (MTR)**, also known as a Mill Test Certificate. In global manufacturing, the European standard **EN 10204** is the universally recognized framework for these inspection documents. Within this standard, **Type 3.1** and **Type 3.2** certificates represent the highest tiers of material traceability.

1. EN 10204 Type 3.1: Independent Internal Verification

An EN 10204 Type 3.1 certificate is the industry standard for high-quality metal procurement. It declares that the supplied products comply with the exact requirements of the order and provides specific test results traced directly back to the original metal heat/melt.

- **Issued by the Manufacturer:** The document is prepared and validated by the metal mill or manufacturer.
- **Independent Validation:** To comply with 3.1 standards, the certificate must be signed by the manufacturer's authorized inspection representative, who operates *independently* from the manufacturing department.
- **Cost & Speed:** Because the verification is handled internally by the manufacturer's QA department, 3.1 certificates do not add significant lead time or third-party costs to the order.

2. EN 10204 Type 3.2: Third-Party Witnessed Verification

An EN 10204 Type 3.2 certificate represents the pinnacle of material traceability and compliance. It is reserved for the most critical applications—such as high-pressure valves, offshore rigging, or highly volatile chemical containment.

- **Dual Certification:** The document is signed by BOTH the manufacturer's authorized inspection representative AND an independent authorized third-party inspector (such as Lloyd's Register, TÜV, or DNV).

- **Witnessed Testing:** The third-party inspector must physically visit the mill/facility, identify the raw material, verify its traceability, and witness the mechanical and chemical testing procedures firsthand.
- **Cost & Speed:** Because a 3.2 certificate requires scheduling a recognized third-party auditor, it incurs significant additional costs and can extend project lead times.

3. Direct Comparison: 3.1 vs. 3.2

Criteria	EN 10204 Type 3.1	EN 10204 Type 3.2
Validating Authority	Manufacturer's independent quality rep.	Manufacturer's rep + Independent 3rd-party inspector.
Testing Process	Performed internally by the manufacturer.	Witnessed and verified by a 3rd party.
Lead Time Impact	Minimal / Standard.	Extended (requires scheduling an inspector).
Cost Impact	Included in standard premium material costs.	High (incurs 3rd-party inspection day rates).
Typical Applications	Aerospace, general energy, high-end industrial machinery.	Subsea oil & gas (NACE compliance), nuclear, critical pressure vessels.

ForceBeyond's Commitment to Quality Assurance

At **ForceBeyond**, we understand that precision manufacturing is nothing without verifiable material integrity. Our quality control system is designed to handle the most stringent documentation requirements.

Whether your project requires standard EN 10204 3.1 certification or a fully witnessed EN 10204 3.2 inspection, our QA team ensures complete traceability from the melt to the finished component.

Submit Your Project for a Detailed Quote

