# 3. [PROJECT MATERIALS MANAGEMENT PRIMER (RS7-2)](https://www.construction-institute.org/project-materials-management-primer)

**Report Summary:** This research paper mainly aims to assist owners and contractors (engineering and construction) in using modern materials management systems and techniques which have been proven to be successful.

Construction materials management has made major improvements, and indications are that continued advancements will be made through the automation of the many repetitive functions, the ability to communicate information about materials worldwide, and the use of other cost-effective measures. Materials functions must have visibility in the organization and individuals assigned to materials activities must be properly trained, motivated, and recognized for their contributions. With these advancements, materials management can provide better tools to the workforce, improve cost-effectiveness, and have a significant impact on the ability of the U.S. construction industry to compete in both the domestic and the international marketplace.

The CII’s Project Materials Management Handbook is a comprehensive guide to improve materials management. Below is a brief list of the Handbook’s recommendations. Readers are encouraged to consult the Handbook’s specific chapters for details.

* Ensure that quality materials are on hand when and where required.
* Obtain the best value for purchased materials.
* Provide efficient, low-cost transport, security, and storage of materials within construction sites.
* Reduce surplus to the lowest level possible.

**Key Takeaways:**

## (1) Obtain the best value for purchased materials.

## (Project Phase: Concept through Construction)

* Research and compare prices among multiple vendors to ensure competitive pricing.
* Evaluate product quality, durability, and performance in relation to price and specifications.
* Negotiate with suppliers to secure discounts or favorable terms based on volume purchases.
* Verify that all materials meet project requirements and specifications before making a purchase decision.
* Monitor material usage and adjust purchasing strategies as needed to optimize value for money.

## (2) Provide efficient, low-cost transport, security, and storage of materials within construction sites.

## (Project Phase: Detailed Scope through Construction)

* Coordinate with vendors to arrange timely and cost-effective transportation methods.
* Identify secure locations on site for material storage and ensure that these locations meet project specifications.
* Implement a system for tracking and monitoring material inventory levels and movement.
* Negotiate with logistics providers to obtain discounts or favorable rates based on volume usage.
* Conduct regular inspections of stored materials to prevent damage, theft, or loss.

## (3) Assure that quality materials are on hand when and where required.

## (Project Phase: Concept through Construction)

* Confirm with vendors that test dates, forms, and certifications will be established before actual inspections take place.
* Ensure that shop documentation is meaningful by verifying that the data reflect the actual fabrication and testing results.
* Coordinate transportation logistics for equipment movement to ensure the timely arrival at construction sites.
* Verify that all necessary materials have been procured and delivered to the site prior to inspections.
* Conduct regular inventory checks to guarantee that quality materials are on hand when required.

## (4) Reduce surplus to the lowest level possible.

## (Project Phase: Concept through Construction)

* Ensure that procurement practices and inventory management systems are in place to minimize excess materials.
* Work with the contractor to establish clear guidelines for material usage and tracking.
* Regularly review and adjust min/max inventory limits to prevent overstocking.
* Identify opportunities to recycle or reuse excess materials whenever feasible.
* Hold regular meetings with the contractor to monitor progress, and make adjustments as needed.

## [(5) Tool: Procurement and Materials Management: A Guide to Effective Project Execution (IR7-3)](https://www.construction-institute.org/procurement-and-materials-management-a-guide-to-effective-project-execution)

## (Project Phase: Concept through Construction)

* Helps construction projects streamline material planning, procurement, and logistics to reduce costs, avoid delays, and enhance efficiency.
* Defines materials management as an integrated system for timely, cost-effective, quality materials supply.
* Highlights the significance of planning in materials management for reducing costs, ensuring availability, and preventing delays.
* Stresses corporate support for materials management through standardization, alliances, and training for optimal efficiency.
* Promotes emerging technologies, such as barcoding, electronic data interchange, and integrated computer systems, for tracking and control.
* Emphasizes metrics, including cycle times, availability, surplus reduction, and supplier performance improvements, for evaluating a materials management system.