# 6. [MITIGATING THREATS OF COUNTERFEIT MATERIALS IN THE CAPITAL PROJECTS INDUSTRY (RS307-1)](https://www.construction-institute.org/mitigating-threats-of-counterfeit-materials-in-the-capital-projects-industry)

**Report Summary:** The threat of counterfeit, fraudulent, and suspect items (CFSI) in the capital projects industry is pervasive, complex, and dynamic and is a critical risk to materials quality. The following major conclusions were drawn from this study:

* The construction industry has a critical lack of awareness and training concerning CFSI.
* Industry detection of CFSI occurs predominantly after installation, which increases the risk of safety, cost, and schedule impacts.
* Industry efforts towards CFSI assessment and mitigation are isolated and inconsistent.
* No clear industry method currently is available for reporting CFSI threats.
* Construction organizations are reluctant to share data due to perceived legal and market consequences.
* The need for collaborative action to address CFSI risk is compounded by perceived internal and external challenges.

To mitigate the risk of CFSI, a project team should be able to identify where the counterfeit materials enter the supply chain, prioritize the mitigation actions with a focus on areas with higher levels of criticality, implement risk mitigation strategies, and assess the risk before and after the application of the mitigation strategies. By collecting data on CFSI risk and sharing lessons learned via the mitigating process, project teams will improve the effectiveness of their CFSI mitigation strategies.

This research tools provides the following:

* Reference resources and training materials
* CFSI qualitative risk rating approach
* A catalog of risk mitigation strategies
* A standardized format/tool for an internal, company-level database

**Key Takeaways:**

## (1) Reference resources and training materials

## (Project Phase: Concept through Construction)

* Compiles industry handbooks that are relevant to counterfeit materials and mitigation strategies.
* Develops structured training modules to identify and mitigate counterfeit materials.
* Curates case studies that highlight past counterfeit incidents and successful mitigation efforts.
* Creates an accessible knowledge repository for guidelines, reports, and risk assessment tools to target counterfeit materials.
* Regularly updates materials knowledge repository to reflect evolving threats and mitigation strategies.

## (2) A qualitative risk rating approach to address counterfeit, fraudulent, and suspect items (CFSI)

## (Project Phase: Concept through Construction)

RT-307’s risk rating approach does the following:

* Defines key risk factors, such as probability, consequence, and mitigation prioritization, for counterfeit materials.
* Develops a structured rating scale to assess CFSI risks based on expert judgment and project drivers.
* Includes a risk heat map to visualize consequence-probability relationships for prioritizing CFSI mitigation efforts.
* Standardizes assessment criteria across projects to ensure consistency in evaluating CFSI risks.
* Integrates ongoing feedback to refine and improve CFSI risk rating accuracy over time.

## (3) A catalog of risk mitigation strategies

## (Project Phase: Concept through Construction)

RT-307 provides a catalog that does the following:

* Identifies and documents 19 key risk mitigation strategies that are tailored to CFSI threats in capital projects.
* Describes implementation guidelines for each strategy, including scope, objectives, and challenges.
* Classifies strategies based on effectiveness, applicability, and industry relevance.
* Provides a decision framework to guide organizations in selecting appropriate strategies based on risk level.
* Updates and refines the catalog periodically based on industry trends and case study insights.

## (4) Standardized format/tool for an internal, company-level database.

## (Project Phase: Concept through Construction)

RT-307 does the following:

* Provides a structured database to log CFSI incidents, including product details, detection methods, and mitigation actions.
* Standardizes data entry fields to ensure consistency in reporting and analysis across projects.
* Incorporates risk assessment metrics to quantify and prioritize CFSI threats.
* Enables data sharing protocols while maintaining confidentiality and legal compliance.
* Regularly updates and audits the database to enhance accuracy and usability.

## [(5) Tool: Counterfeit Materials Database (IR307-2)](https://www.construction-institute.org/counterfeit-materials-database)

## (Project Phase: Concept through Construction)

* Identifies CFSI threats: Highlights the threat of CFSI in capital projects, emphasizing increased safety, cost, and schedule risks.
* Develops a risk mitigation framework: Proposes a structured framework for CFSI risk identification, assessment, mitigation, and communication that is tailored to construction projects.
* Encourages industry collaboration: Suggests a phased, industry-wide initiative for data sharing of CFSI incidents, with the Construction Industry Institute as the central coordinator.
* Implements mitigation strategies: Presents a catalog of 19 specific CFSI mitigation strategies that cover detection, reporting, and awareness improvement.
* Promotes data exchange and training: Advocates for data exchange and enhanced CFSI training to address the dynamic and pervasive nature of counterfeit risks in supply chains.