Survey of Labor Certifications for the Built Environment

COOKFOX Architects, DPC

ACKNOWLEDGEMENTS

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ABOUT COOKFOX

COOKFOX Architects is a New York City based architectural and interior design studio. COOKFOX has built a studio focused on high-performance, environmentally responsive design and is well-known for innovative design at the highest standards of environmental performance. COOKFOX focuses on biophilic design to create architecture that supports physical health and mental wellness. With a portfolio of diverse residential, workplace, and education projects, COOKFOX seeks to pursue architecture that restores, regenerates, and elevates our collective experience of the urban environment.

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Abstract

Forced labor has been identified at all levels of the construction industry, from the sourcing of raw materials to the labor practices on job sites. Despite this, there are few certifications focused on labor practices specific to the construction industry, and those that exist are relatively new. There are, therefore, few resources available that comprehensively identify labor certifications relevant to the built environment and analyze their utility for designers. To address this need, we surveyed labor certifications within the construction industry and categorized them based on the services they provide and the methods they use to evaluate labor practices. We identified three categories of labor certifications relevant to the built environment: 1) Supply Chain Management services, which can be hired to consult on how to improve labor practices in their supply chains, 2) Supplier Certifications, which evaluate supplier practices and award certifications based on their performance, and 3) Independent Evaluators, which either produce industry and regional level analyses of forced labor or seek to shape industry practices by building coalitions of like-minded companies. We evaluate the strengths and drawbacks of type of labor certification and propose an approach for critical implementation of these tools by designers seeking to eliminate forced labor in the construction of their projects. We urge designers to incorporate fair-labor certification requirements strategically as part of their projects and to advocate for policy change that incentivizes more transparent labor practices in the construction industry.

Introduction

In 2014, when architect Zaha Hadid was asked about dangerous and forced labor practices discovered at job sites for her firm's FIFA World Cup stadiums in Qatar, she deferred responsibility: "I have nothing to do with the workers...I cannot do anything about it because I have no power to do anything about it"[1]. The comments ignited debate within the design industry, with many professionals rejecting the notion that designers lack responsibility for human rights abuses in their projects. Although designers are often removed from project bottom-line decisions and construction means and methods, they work with clients to set performance and certification requirements for materials and general site practices. This role presents an opportunity for designers to address directly forced labor risks within supply chains and labor practices involved in their projects. With this in mind, the Design for Freedom working group was established in 2018 as an effort by design professionals to abolish forced-labor of the construction industry.[2]

The working group's first publication, the Design for Freedom Report (2020), found that forced labor is present at all levels of the construction industry. As documented during construction of the World Cup stadiums in Qatar, forced labor practices on job sites can include the use of criminal, abusive, and dangerous working conditions (see Box 1 and Box 2 for key definitions related to modern slavery). The majority of forced labor in the construction industry, however, occurs in the supply chains of construction materials. Industries conducting the extraction of raw materials, fabrication of products, and transportation of goods for construction projects have all been found to harbor human rights abuses. The opaque and disaggregated nature of construction industry supply chains further complicates efforts to identify and eliminate forced labor practices.[3]

As members of the Design for Freedom Working Group, COOKFOX Architects is determined to remove forced labor from our projects. During early efforts, we identified the need for a comprehensive evaluation of the resources currently available to designers who aim to eliminate forced labor from the construction of their projects. While other industries, including fashion and agriculture, have established certifications and auditing standards for labor practices,[4] we were either not familiar with labor certifications in our industry or were surprised to learn that some familiar certifications already include fair-labor requirements.

We therefore conducted a systematic survey of certifications for ethically sourced materials and fair-labor practices related to the construction industry. We conducted a broad search of consultancies, certifications, and independent research organizations working to address modern slavery

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BOX 1

Key Definition
Forced Labor

"Forced labour is work exacted under the threat of penalty and for which the person has not offered himself or herself voluntarily. Penalties can be extreme, such as beatings, torture, sexual assault or threats of physical violence, but also can include the withholding of identity documents or wages, or threats of deportation. Other penalties may involve imposing debt on workers (e.g., through large pay advances or transportation fees) that is difficult or impossible to repay on low wages. Forced labour violates the basic human right to work in freedom and to freely choose one's work, and usually is unlawful under national law."[5]

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BOX 2

Key Definition
Child Labor

"Child labour is work that is mentally, physically, socially or morally dangerous and harmful to children. It interferes with their schooling by depriving them of the opportunity to attend school, obliging them to leave school prematurely or to combine school attendance with excessively long and/or heavy work."[6]

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[1] Riach, "Zaha Hadid Defends Qatar World Cup Role Following Migrant Worker Deaths."
[2] Hickman, "Grace Farms Launches Design for Freedom Initiative to Abolish Forced Labor in the Built Environment."
[3] Design for Freedom Working Group, "Design for Freedom by Grace Farms."
[4] In the coffee industry, certification labels like FairTrade and Rainforest Alliance are widely used by coffee producers, see Raynolds, Murray, and Heller, "Regulating Sustainability in the Coffee Sector: A Comparative Analysis of Third-Party Environmental and Social Certification Initiatives." For examples of certifications related to the fashion industry, see Pedersen and Gwozdz, "From Resistance to Opportunity-Seeking: Strategic Responses to Institutional Pressures for Corporate Social Responsibility in the Nordic Fashion Industry."
[5] ILO and IFC, "Guidance Sheets on Labour Regulations."
[6] Ibid.

and categorized them according to the type of service they provide and the methods they use to evaluate and certify labor practices. These findings are summarized in Table 1. We then analyze how each of these tools can inform decision making by designers seeking to reduce and eliminate forced labor from their projects. Finally, we propose steps architects can take to effect long-term change: incentivise transparent labor practices and create demand for ethically produced products by using them in projects. We undertook this research to understand the current state of labor certifications for the built environment and to evaluate critically how they can help us address forced-labor-free goals in practice. In making this research publicly available, we hope it can serve as a resource for designers who share our goal of eradicating forced labor from the building industry.

Methodology

The starting point for this survey was the list of supply chain transparency resources outlined in the Design for Freedom report by the Grace Farms Foundation[7] and the LEED Social Equity within the Supply Chain pilot credit.[8] We identified additional fair labor services and certifications using web searches, industry contacts, and literature about labor practices in the construction industry. While not exhaustive, this survey seeks to comprehensively describe the current state of services and certifications that evaluate labor practices in the construction industry.

Labor certifications were evaluated based on materials made public by each certifier on their websites, including advertised services, standards, guides, and self-published reports. We categorized the certifications into three broad groups based on common features described in the following pages. We then assessed the methods each certifier uses to evaluate labor practices based on information they make publicly available. Using this information, we documented the type of service provided, its relevance to the built environment, and how each certifier incorporates forced-labor indicators in their certification process. We also provide a qualitative assessment of key limitations and strengths of each certification.

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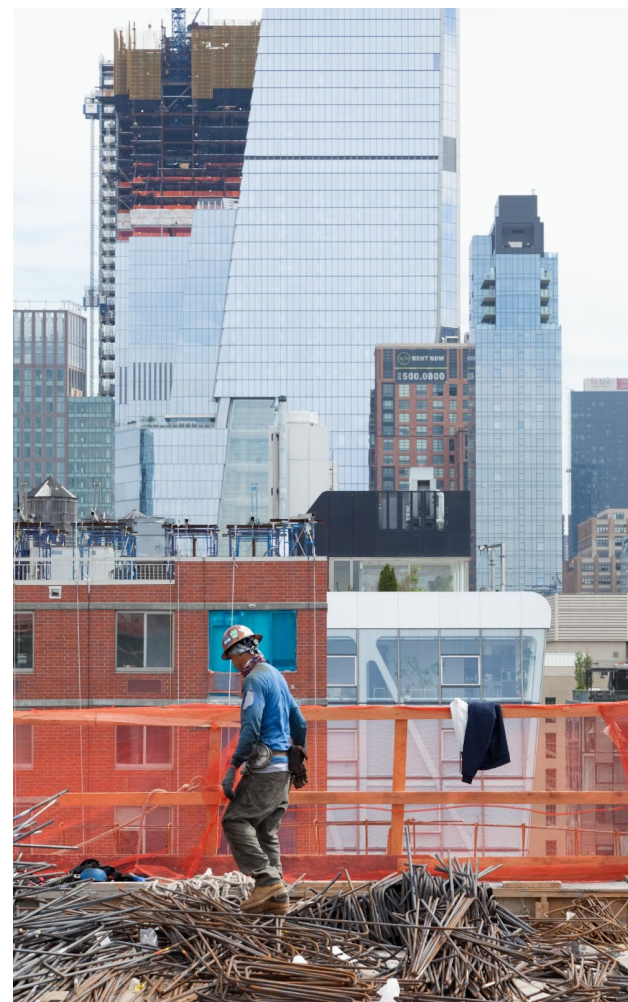
[7] Design for Freedom Working Group, "Design for Freedom by Grace Farms."
[8] U.S. Green Building Council, "LEED Social Equity within the Supply Chain."

Evaluating Forced Labor

All certifications included in this survey address labor practices in some way, many of them using standards established by the International Labor Organization (ILO).[9] While some certifications focus solely on labor practices, others also examine adjacent issues such as sustainability and corporate responsibility. Based on our survey of certification requirements, the following core principles are common among certifications with social or labor practice standards:[10]

- No forced labor
- No child labor
- No bonded labor (labor extracted through predatory debt)
- No unsafe conditions or excessive working hours
- No association with human trafficking

In addition to these core principles, many certifications include the following labor practices in their requirements:[11]

- Freedom of association and collective bargaining
- Gender equity and anti-discrimination employment practices
- Protections for young workers (ages 15-17)
- Fair wages
- Maintenance of anonymous grievance mechanisms
- Compliance and support of broader human rights

The most expansive certifications also include the evaluation of indirect social impact, such as:[12]

- Indigenous peoples' right and cultural heritage
- Ethical land acquisition and investment
- Community health and safety
- Community development
- Ethical business practices
- Anti-corruption measures

We found significant overlap between the principles evaluated by certifications. Because certifications that address the core principles identified above are sufficient for teams working to eliminate forced labor from their projects, we determined it would not be necessary to categorize the certifications based on nuances between the principles they evaluate. Rather, we use two broad categories to generally describe the scope of

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[9] International Labor Organization, "Conventions and Recommendations."

[10] For example, the FSC principles require members to "respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory", which would implicitly preclude these practices. See Sustainable Forestry Initiative, "SFI 2022 Standards and Rules.".

[11] See the SA8000 standard for an example. SA8000 is structured to be a cross-industry standard for the certification of labor practices and includes these broader issues, but does not additionally evaluate the positive initiatives or context of the company. See Social Accountability International, "Social Accountability 8000 International Standard.".

[12] For example, Responsible Steel is a mining certification that requires companies, in addition to the practices above, to practice stakeholder engagement and evaluate and mitigate impact to local communities. See ResponsibleSteel, "ResponsibleSteel Standard."

their evaluation criteria. Certifications measuring the core principles are considered to "include" forced-labor-free metrics. Certifications that extend beyond the core principles and require third-party audits are considered "focused" on forced-labor-free metrics.

Type of Certifications

The certifications identified during our search are broadly categorized into three groups based on the type of service they provide.

Supply Chain Management (SCM) services provide custom-tailored analysis of a client's supply chain, which can include ethical labor standards, sustainability, and general supply chain management. These services tend to be marketed to companies with vertically integrated or stable supply chains that the client manages directly.[13] See Box 3 for examples of SCM services.

Supplier Certifications are third-party certifications that evaluate the extent to which products or companies adhere to forced-labor-free principles. The results of these third-party evaluations are made public, lending credibility to the certifications. From a designer's perspective, supplier certifications identify construction materials that have already been audited for their labor practices. Supplier certifications can recognize an individual site (such as a factory), a company, or a product. The most rigorous of these certifications require "Chain of Custody" certification, which means all components of a product are certified at every stage of production. See Box 4 for examples of certifications.

Independent Evaluation refers to third-party organizations that conduct independent research and benchmarking related to ethical labor practices. This includes academic institutions that publish investigative research, non-profit companies involved in workers rights, or coalitions of companies that pledge to adhere to ethical principles. Independent evaluations tend to be broadly focused, identifying high-risk industries and regions as opposed to certifying individual suppliers. In some cases, companies providing SCM or supplier certification also conduct and publish independent evaluations and papers. See Box 5 for examples of independent Evaluators.

Methods Used for Certification

Because the principles evaluated by labor certifications are relatively consistent, we focused our evaluation on how certifiers determine whether labor practices meet their principles to understand how robust the certification process is. For example, certifications that rely solely on self-reported information are less rigorous than ones that use unannounced

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[13] For examples of the types of clients that use SCM services, see "Our Customers" subheading from Ecovadis' webpage for enterprise services: "Enterprise Solutions."; see "Market and Services" from Bureau Veritas' website: Bureau Veritas, "Markets and Services."; and the "Member Case Studies" from Sedex's website: Sedex, "Knowledge & Resources."
[14] "Sourcemap: 100% Traceable, Transparent Supply Chains"; FRDM, "How It Works"; Sedex, "Sedex Advance."
[15] "The Copper Mark: Responsibly Produced Copper"; "Cradle to Cradle Products Innovation Institute"; "Chain-of-Custody Certification"; International Living Future Institute, "Just"; B Lab, "About B Corp Certification."

BOX 3

Supply Chain Management (SCM) services: Examples

SCM services provide a range of services, including audit support and supply chain resilience. Audit support is due diligence documentation for companies that are investigated by government agencies or certifiers for high risk or suspected use of forced labor. For examples, visit the websites of Sourcemap and FRDM where they advertise services for "Forced Labor Due Diligence" and "Modern Slavery Act Compliance". For supply chain resilience, SCM services encourage and facilitate companies to be proactive in avoiding forced labor risk to ensure their supply chains are stable and free from interruptions due to detention or confiscation by law enforcement agencies. SCM companies sometimes offer access to a network of vetted suppliers to use or avoid as part of their services, such as Sedex's "Sedex Advance" network and Bureau Veritas' "SafeSupply" tool. [14]

BOX 4

Supplier Certifications: Examples

An example of a supplier certification is the Copper Mark, which was established to help the copper industry meet environmental and social goals outlined in the United Nations Sustainable Development Goals (SDGs). The Copper Mark certification can apply to both upstream and downstream entities in copper production. Cradle to Cradle (C2C) is an example of a certification focused more on downstream companies. C2C has has multiple tiers of certification for each of their five criteria. Their "Social Fairness" criteria includes requirements for fair labor practices. "Chain of Custody'' certifications are among the most rigorous supplier certifications, requiring companies to track materials used in their certified products through upstream suppliers and ensure that those upstream suppliers meet minimum standards for labor practices. For example, see the Forest Stewardship Council's (FSC) Chain of Custody Standard. Supplier Certifications also include corporate certifications or declarations, such as the Just Program or Certified B-Corporations. This type of certification or declaration focuses on the corporate policies within a company, requiring the ethical treatment of their direct employees and pledges to practice ethical sourcing. [15]

third-party audits of factory sites, even if the former include more forced-labor-free principles in their requirements. After searching certification websites for advertised services and published standards, we identified three general methods certifiers use to evaluate companies: self-reported information, observation, and legal and social context. Almost all certifiers were found to use multiple of the following methods.[16]

Self-reported Information

The most common method used by certifiers to evaluate labor practices within companies and industries is self-reported information. Self reported information can take the following forms:

- **Client Input:** companies share documents, policies, and information about their company and their suppliers.

- **Member Networking:** clients reveal their upstream suppliers and encourage them to attain fair labor certification. Certifiers may use this information to create and share databases of companies that employ fair labor practices for clients to partner with.[18]

- **Survey:** companies collect survey data from their suppliers and present it to the certifier.

Observation (Auditing)

Observation includes any activities that involve direct observation of labor practices by third-party auditors. This includes:

- **Field inspection:** auditors conduct in-person examinations of facilities, company records, and policies. Audits can be scheduled or unannounced.[19]

- **Remote research:** companies are audited remotely, either through the review of self-reported documents provided by the client or through independent research by the certifier. This is sometimes referred to as a "desk audit".[20]

- **Automated monitoring:** certifiers employ algorithms or machine learning to monitor large supply chains and flag suspicious, high-risk, or otherwise notable information for closer review.

Independent Evaluation: Examples

An example of an independent evaluation is the Global Slavery Index, which evaluates countries for forced labor risk based on presumed number of people in modern slavery, legal protections and initiatives to prevent forced labor in their governance, and other factors that increase vulnerability. Another example is the KnowTheChain Benchmark report, which analyzes how well the top-grossing companies in certain high-risk industries are addressing forced labor risks with policies and transparency efforts.

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[16] Certifiers were categorized according to publicly available descriptions of their services. It is possible that publicly advertised services actually play a limited role in their evaluation, or that additional evaluation metrics are not clearly or publicly disclosed.

[17] Walk Free Foundation, "The Global Slavery Index 2018"; KnowTheChain, "2020/2021 Benchmark."

[18] An example of a resource that lets clients browse vetted companies is the Sedex Advance network mentioned earlier, see Sedex, "Sedex Advance.".

[19] For example, the Aluminum Stewardship Initiative's Performance Standards outline an initial field inspection conducted in cooperation with the company seeking certification, followed by a "surveillance audit" that occurs somewhere between 12 and 18 months after certification. Refer to page 7 of their performance standard: Aluminum Stewardship Initiative, "ASI Performance Standard."

[20] The Just Program, for example, relies exclusively on self-reported information from evaluees. It states that it is "not a certification program, it is a transparency platform for organizations to disclose their operations" and that a Just Label "does not constitute an endorsement". See "About Just" and the "FAQ" sections of their website: International Living Future Institute, "Just."

These warnings are sometimes sent directly to a client so they can proactively monitor labor practices in their supply chains.[21]

Legal and Social Context

Certifications can also use research about a region, industry, or legal context to flag materials and products that may be at high risk for forced labor. Examples include:

- **Regional risk:** certifiers use country, industry, or regional assessments based on historic trends of modern slavery and human rights abuses, lack of local laws to protect workers, or lack of transparency. Certifiers often require more stringent audits when clients operate in high-risk regions.[22][23]

- **Public records:** certifiers use news reports, public lawsuits, or public requests for stakeholder input to evaluate a company's practices.[24]

Tiered ratings

Finally, we identify whether certifications have tiered ratings, such as Bronze to Platinum rankings or percentage-based scores. We note when only higher tiers require third-party auditing of labor practices (see Table 1). For certifications that use tiered ratings, our evaluation is based on the most stringent rating.

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[21] The SCM service FDRM offers this type of monitoring, stating that their "proprietary Risk Algorithm does it all for you using a risk analysis framework highlighting supply chain inputs...using machine learning crawlers". See FRDM, "How It Works."

[22] For example, the Responsible Business Association, an association of electronics manufacturers, uses its Risk Assessment Platform to analyze supplier sites for inherent and potential risk for "early high-level risk assessment". See RBA, "Risk Assessment Platform."

[23] Using regional risk as a metric is non-specific because it may inappropriately penalize companies that operate at acceptable standards despite poor local labor practices, or allow a company in a low-risk area to operate with less oversight.

[24] The use of public records may be part of a typical desk audit, but companies that specifically describe using public records during certification are indicated in our findings.

Findings

We present our findings on forced-labor-free certifications relevant to the construction industry in Table 1. The table indicates which methods the certifiers claim to use in their evaluations and a brief summary of the certification. Also included is a qualitative, broad assessment of whether Supplier Certifications *include* or are *focused* on forced-labor-free goals.[25]

Supplier Certifications are considered to "include" forced-labor-free metrics if they meet one of the following criteria:

A. The certification requires adherence to the core issues listed above as part of its evaluation, either implicitly by requiring adherence to prevailing law or through reference to an internationally recognized labor standard like the ILO, but does not outline specific auditing or verification of these practices.

B. The certification evaluates labor practices more rigorously, but averages performance with other categories (such as sustainability) such that a positive certification can be achieved even with minimal demonstrated labor protections.

A certification is considered "focused" on forced-labor-free metrics if it goes beyond the core requirements in all of the following ways. If different tiers of certification are offered, the most stringent tier is considered.

●   It evaluates labor practices beyond the core requirements.

●   It requires third party evaluations of labor practices (such as field audits that include anonymous worker interviews)

●   Performance in core social equity metrics are a critical component of the certification process, such that a substandard performance in labor practices alone can hinder certification despite performance in non-labor categories.

In the table, the following abbreviations are used:

●   SCM - Supply Chain Management
●   SCert - Supplier Certification
●   IE - Independent Evaluation
●   BE - Built Environment

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[25] SCM services are not considered since their evaluations are part of a confidential client relationship and are not made public without client consent. Independent Evaluations are not evaluated in this category since their efforts apply to industries more broadly or are membership organizations with non-binding pledges.

Table 1: Survey of Forced Labor Certifications for the Built Environment

Methods Used for Certification

Company Name	FLF Metrics	Summary	Client Input	Member Network Survey	Field Inspection	Remote Research	Automated	Public Records	Regional Risk	Tiered
SUPPLY CHAIN MANAGEMENT SERVICES										
Bureau Veritas		SCM service that monitors supply chains, audits suppliers, and provides consultancy services. Advertises sustainability consultancy for BE industries. Offers social responsibility auditing, certification, and supplier networking.	●	●	●	●				
EcoVadis		SCM service that monitors supply chains, audits suppliers, and provides consultancy services. Some listed experience working in electronics. Offers risk mitigation services that include forced-labor and non-compliance with labor laws.	●	●	●	●	●		●	
Fair Supply Analytics		SCM service that provides desk-based audits of client-provided data on their supply chains. Unclear if they have worked with BE industries. They identify areas that require in-depth risk assessment, unclear if they provide field inspection services.	●	●		●			●	
Fighting Modern Slavery and Human Trafficking Certificate, by FAST and ACAMS		An education platform that offers certification recognizing completion of one or more online courses on how to identify and prevent human trafficking. Intended for risk managers and ESG specialists.		●						

Client Input
Member Network
Survey
Field Inspection
Remote Research
Automated
Public Records
Regional Risk
Tiered

Company Name	FLF Metrics	Summary	Client Input	Member Network	Survey	Field Inspection	Remote Research	Automated	Public Records	Regional Risk	Tiered
FRDM (Freedom)		SCM service that monitors supply chains using remote research, client input information, and automated algorithms to assess and monitor risk. Has investigated BE supply chains. Unclear if FRDM performs or manages field inspections.	●	●	●		●	●	●	●	
Sedex (The Supplier Ethical Data Exchange)		SCM service with explicit focus on worker conditions. Has experience working with BE industries. Offers a networking database for members to share and find vetted suppliers. Creator of the Sedex Members Ethical Trade Audit (SMETA), a standard for social auditing.	●	●	●	●	●			●	
Social Hotspots Database		SCM service that provides training, risk assessment, and supply chain mapping services. Have experience with BE industries, including solar, IT, and furniture. Offer standalone access to their risk mapping database.	●		●	●	●			●	
Sourcemap		SCM service that monitors supply chains, audits suppliers, and provides consultancy services. Has experience in BE adjacent industries, including raw minerals, textiles, and general logistics. Offers risk mitigation services that include forced-labor and non-compliance with labor laws.		●	●	●	●			●	
Verite		SCM service and IE that monitors supply chains, audits suppliers, and provides consultancy services. Has experience in BE adjacent industries including forestry and electronics. Has explicit focus on labor conditions. Produces independent public research in the form of white papers and contributes to country risk assessment and policy development with governments.	●	●		●	●	●	●	●	

Company Name	FLF Metrics	Summary	Client Input	Member Network	Survey	Field Inspection	Remote Research	Automated	Public Records	Regional Risk	Tiered
SUPPLIER CERTIFICATION											
Aluminum Stewardship Initiative	Focused	SCert for organizations at any stage in aluminum production. Chain of Custody certification is awarded to products with fully-certified supply chains. Certifies aluminum that is used in BE products. Maintains a searchable list of certified entities and a portal for grievance submission.	●	●		●	●		●		●
American Tree Farm System	Included	SCert program for tree farmers within the United States. Certifies resources that produce wood for BE. One clause in their evaluation standard generally requires fair labor practices.	●			●					
BES 6001: Responsible Sourcing, Construction Products	Focused	SCert for construction supply companies to demonstrate compliance with ethical sourcing via a third party auditing agency. Directly related to BE with limited requirements for forced labor, mostly in the form of requiring companies to adhere to international legal standards and confirm their suppliers do the same. See BES 6002 for labor specific certification.	●			●	●		●		
BES 6002: Ethical Labour Sourcing Standard	Included	SCert for companies to demonstrate compliance with legal and ethical standards related to eliminating forced labor from supply chains. Developed by Building Research Establishment (BRE), is directly related to BE industries. Site visits appear to be primarily an exchange of client provided data rather than a field inspection; a searchable list of certified companies is actively maintained.	●			●			●		

Company Name	FLF Metrics	Summary	Client Input	Member Network	Survey	Field Inspection	Remote Research	Automated	Public Records	Regional Risk	Tiered
Certified B Corporation	Focused	SCert is primarily driven by member pledges and transparency, which includes labor practices. Companies from any industry can join. 10% of members per year are randomly selected for field inspection. Large companies are required to undergo field inspection. Has certified companies directly related to BE in design and construction.	●	●		●	●		●	●	
Concrete Sustainability Council Certification	Focused	SCert for concrete, which includes evaluation of cement and aggregate sources. Directly related to BE. Prerequisite requirements include basic human rights protections and ILO core conventions compliance. Tiered performance from Bronze to Platinum, performance in social categories is averaged against all others. After successful audit, certification is valid for 3 years. Maintains a list of certified entities and a grievance submission portal.	●			●	●		●		●
Cradle to Cradle Product Certification	Focused	SCert for goods and material supply companies for both environmental and labor standards. Primarily a general product certification with a sizeable number of products related to BE industries, especially furnishings. Accepts recognized certifications in lieu of audits, the lowest performing category determines overall rating.	●		●	●	●		●		●
The Copper Mark	Focused for "Recipients"	SCert for sites engaged in activities at any stage of copper production to examine labor practices, sourcing, and sustainability performance. Established to help the copper industry meet SDGs. The Copper Mark maintains a list of Copper Mark recipients and a grievance submission portal.	●			●	●		●	●	●

Company Name	FLF Metrics	Summary	Client Input	Member Network	Survey	Field Inspection	Remote Research	Automated	Public Records	Regional Risk	Tiered
Fair Stone	Focused	SCert for stone products from emerging markets in response to known abuses present in stone extraction. Directly related to BE industries. It is initiated by stone distributors who register their suppliers, provide data to Fair Stone, undergo audits, and attain tiered certification as a Fair Stone Partner, Associated Partner, or Supporter (listed from most rigorous to least rigorous requirements).	●	●		●	●			●	●
Fair Trade USA Certified 2.0	Focused	SCert focused on labor practices and environmental protection. Certified products include furniture and home goods. Companies need not meet all requirements initially, but are required to demonstrate improvement. Certified companies must undergo annual third-party audits to ensure minimum standards are met.	●	●		●	●		●	●	
Forest Stewardship Council: Chain of Custody Certification	Focused	SCert for wood products that requires all upstream suppliers and products to be FSC certified. Directly related to BE wood products. Core principles require adherence to broader human rights and labor laws, CoC requirements list specific labor requirements.	●	●		●	●			●	
Forest Stewardship Council Certification: Forest Management Certification	Focused	SCert for individuals or organizations managing forest land. Similar requirements to Chain of Custody Certification. Necessary precursor to CoC Certification.	●	●		●	●			●	

Company Name	FLF Metrics	Summary	Client Input	Member Network	Survey	Field Inspection	Remote Research	Automated	Public Records	Regional Risk	Tiered
Global GreenTag International: Modern Slavery Declaration	Included	SCert for a range of products primarily related to construction and furnishings. Performance in categories is averaged against quality of data, such that high quality data reporting negligence results in a neutral score. Onsite audits are required to achieve the highest data quality score. The MSD was recently made public and it is not clear if any organizations have received the certification.	●	●		●	●		●	●	
Global Recycle Standard	Focused	SCert for textile manufacturers related to recycled content verification. In verifying recycled content, the standard also includes environmental and labor standards. Could potentially certify products related to furnishings. One of their initiatives, the Textile Exchange, maintains a list of certified entities and a grievance submission portal.	●			●	●				
Global Sustainable Enterprise System	Included	SCert provides a meta-certification of sustainability performance based on a company's certifications. GSE also provides supply chain management tools and consultant services. Standards include a "Health Footprint" evaluation, which broadly includes labor practices. Certifies companies and products related to BE. Overall score is based on average of three categories and maintained in a public database, rationale for scores is not publicly available.	●	●	●	●	●			●	
Initiative for Responsible Mining Assurance Certification	Focused at IRMA 50 and above	SCert for mining operations for social and environmental practices. Certifies mining practices that contribute to BE industries. Audits are announced publicly to encourage stakeholder participation, results are made public. Maintain the "Responsible Mining Map" showing certified mines and a grievance submission portal.	●	●	●	●	●		●	●	●

Company Name	FLF Metrics	Summary	Client Input	Member Network	Survey	Field Inspection	Remote Research	Automated	Public Records	Regional Risk	Tiered
ITSCI Tin Supply Chain Initiative	Included	A hybrid SCert and SCM organization that offers members guidance on due diligence practices related to conflict minerals and makes evaluations publicly accessible. Manages tin, tantalum, and tungsten, which are used in BE tools, alloys, and electronics. ITSCI manages a searchable list of reports and audits of their members, membership does not necessarily indicate adherence to fair labor practices.	●	●		●	●		●	●	
Just Certification	Included	Voluntary transparency network that allows companies to publicly report social equity metrics for their company. Companies from any industry can join, members from BE industries are represented. Just does not explicitly verify or endorse information reported to them. Certification is revoked if discrepancies are found.	●				●			●	●
LEVEL by BIFMA	Focused	A SCert for office furniture and interior architectural products. Overall tiered score is determined by averaging performance in sub categories, one of which is Social Impacts, with Level III being the highest performance. Basic human rights are considered prerequisite requirements that must be met for certification.	●			●	●				●
Responsible Business Association	Focused	SCert for electronic, retail, auto, and toy companies that commit to improving labor conditions within their companies and their supply chains, particularly with the Supplemental Validated Audit Process (SVAP). Companies that provide BE electronics can be members. Provides different tiers of certification, with the highest categories requiring external audits. Members are not publicly listed, but may choose to publicize their certification documents.	●	●		●	●		●		

Company Name	FLF Metrics	Summary	Client Input	Member Network	Survey	Field Inspection	Remote Research	Automated	Public Records	Regional Risk	Tiered
The RBA Responsible Minerals Initiative	Focused	SCert for metal and other mineral smelters and refiners for issues on labor and the environment. Minerals and metals directly related to BE are certified. The organization maintains a public list of conformant smelters and refiners and a cross-industry grievance submission portal for people to submit complaints (Minerals Grievance Platform).	●	●	●	●	●		●	●	
The RBA Responsible Labor Initiative	Focused for "Regular" Members	A subsidiary of the RBA, the Responsible Labor Initiative (RLI) provides resources and auditing to meet RBA Code of Conduct requirements related to forced labor due diligence. RLI Members are publicly listed, but their level of membership is not listed ("Regular" members have stronger accountability requirements than "Supporter" members). The RLI also lists private recruitment agencies that are participating in their Responsible Recruitment Program.	●	●		●	●		●		●
The RBA Responsible Factory Initiative	Focused at "Factory of Choice" Level	A subsidiary of the RBA, the Responsible Factory Initiative (RFI) offers training for factories working to meet RBA Code of Conduct requirements. Individual factories may join to become part of audited supply chain networks. Members of the RFI may apply to become a Factory of Choice, which recognizes exceptional performance in third-party audits.	●	●		●	●		●		●
ResponsibleSteel Certification	Focused	SCert for mines, smelters, and other industrial processing organizations related to steel to prove adherence to basic environmental and labor standards. Collaborates with IRMA, TSM, and RJC to create a common platform for evaluating mining practices. Maintains a list of all issued certificates, publicly announces upcoming audits to encourage stakeholder participation.	●			●	●		●	●	

Company Name	FLF Metrics	Summary	Client Input	Member Network	Survey	Field Inspection	Remote Research	Automated	Public Records	Regional Risk	Tiered
SGE 21 Ethical and Socially Responsible Management System	Included	SCert is based in Spain and Latin America that evaluates a range of social issues, including labor practices. Certifies companies working in BE industries. Primarily a tool for establishing internal policies, practices, and safeguards to ensure ethical business practices.	●	●		●	●		●		
Social Accountability International SA8000 Standard	Focused	SCert maintained by Social Accountability International (SAI) to evaluate labor conditions in any industry (except maritime and offshore facilities). Focused on labor conditions and validated by third party audits. SAI maintains a list of SA8000 certified entities and a grievance submission portal.	●			●	●			●	
Sustainable Forestry Initiative (SFI)	Included	SCert for wood and wood products to verify sustainable sourcing and forest management practices. Certifies resources that produce wood for BE products. SFI generally requires members to use fair labor practices, but only requires risk assessment in countries without effective laws addressing ILO core conventions. SFI maintains a searchable list of certified organizations.	●			●	●			●	
TCO Certified	Focused	Certification for electronics manufacturers, with industry specific resources, requirements, and certifications. TCO requires members to meet their standards, which includes labor practice and sustainability requirements, and also provides resources to help members improve their own supply chains and advocate for change in industry practices.	●	●		●	●			●	

Company Name	FLF Metrics	Summary	Client Input	Member Network	Survey	Field Inspection	Remote Research	Automated	Public Records	Regional Risk	Tiered
World Fair Trade Organization's (WFTO) Fair Trade Standard (v4.2)	Focused at "Guaranteed Member"	SCert is composed of members that are obligated to adhere to the WFTO Standards, which outline labor practice requirements validated through self assessment, peer visit, and monitoring audits. Primarily focused on artisanal consumer products, some home goods and furniture products are certified. Maintains a list of certified entities and a grievance submission portal.	●	●	●	●	●		●	●	●
XertifX Standard-Label (Certification v2)	Focused	SCert for stone products with traceability from quarry to importer. Certifies stone products used in BE. All tiers of certification require strong and externally audited labor practices, XertifiX PLUS-Factory ONLY-Certification is available for stones with untraceable supply chains. Maintains a list of certified retailers.	●	●		●	●		●		●
INDEPENDENT EVALUATION											
Business & Human Rights Resource Centre		Non-profit organization dedicated to corporate transparency. Collect data on 10,000 companies in 180 countries, approach companies regarding allegations, and make findings public in reports and databases. Monitor some industries related to BE, including textiles, extractive mining, and technology. Maintain a searchable list of companies and any associated news articles, allegations, and lawsuits regarding human rights abuses.	●			●	●		●	●	●
Corporate Human Rights Benchmark		An alliance founded by Aviva, Index Initiative, the UN Foundation and the Business and Sustainable Development Commission to benchmark the 2000 "most influential" companies on a broad range of indicators, including a "Social" category that includes labor practices. Maintain a list of companies and their evaluations as they are benchmarked.	●				●		●		●

Company Name	FLF Metrics	Summary	Client Input	Member Network Survey	Field Inspection	Remote Research Automated	Public Records	Regional Risk	Tiered
Ethical Trading Initiative (ETI)		An alliance of companies committed to improving the rights of workers in all industries across the globe. Members commit to fair labor practices, and the organization supports outreach and education related to labor practices. The ETI states that they are not a certification scheme and do not publicize the performance of their member companies.		●					●
Global Impact Sourcing Coalition's (GISC) Impact Sourcing Standard		A coalition of companies that commit to "Impact Sourcing", or prioritizing suppliers that intentionally hire and provide development opportunities for people with limited employment prospects. Part of the core standards protect against forced labor. Member participation is voluntary.		●					
Global Slavery Index by Walk Free		2018 report providing a country by country ranking based on estimated prevalence of modern slavery, presented in reports and an interactive map. Accompanying research, as well as the raw data, are made publicly available.		●		●	●	●	●
KnowTheChain Benchmark Methodology		Biannual report published by a collaborative partnership between Business & Human Rights Resource Centre, Humanity United, Sustainalytics, and Verité. The report benchmarks the top companies in IT, food and beverage, and apparel and footwear industries based on publicly accessible information related to labor violations. Companies may not opt out of the evaluation but are given opportunities to engage with the researchers.		●		●	●	●	●

Company Name	FLF Metrics	Summary	Client Input	Member Network	Survey	Field Inspection	Remote Research	Automated	Public Records	Regional Risk	Tiered
LEED Social Equity Credit		A pilot credit for certifying limited scope in a building project. Created to recognize improvement of worker conditions and equity for construction workers, professional design teams, developers, and through ethical sourcing. The "Social Equity with the Supply Chain" credit requires three permanent products by at least two different companies that meet ILO core conventions.	●								
The List of Goods Produced by Child Labor or Forced Labor, US Department of Labor		Annual report published by the US Department of Labor listing which industries are currently using child labor and forced labor, organized by country. Absence from list does not necessarily indicate that forced or child labor are not occuring.				●	●		●	●	
Responsible Mining Foundation		Organization committed to providing transparency reports about extractive mining industries. Publish the Responsible Mining Index, which benchmarks companies and mining sites on their ESG performance. Does not accept funding from the mining industry.	●		●		●		●	●	●
TISC Report		A UK based membership organization for companies to post statements declaring their intentions to reduce modern slavery in their supply chains, primarily to meet UK government required compliance with the Transparency in the Supply Chains (TISC) act. Aim is to be an open source resource for members to share the burden of eliminating slavery from their chains by sharing information and findings. TISC Report does not evaluate members. Statements are also added by an automated process that scans company websites.	●	●				●			
Trafficking in Persons Report (U.S.)		Annual report published by the US Department of State addressing the global status of human trafficking and relevant forced labor.				●	●		●	●	

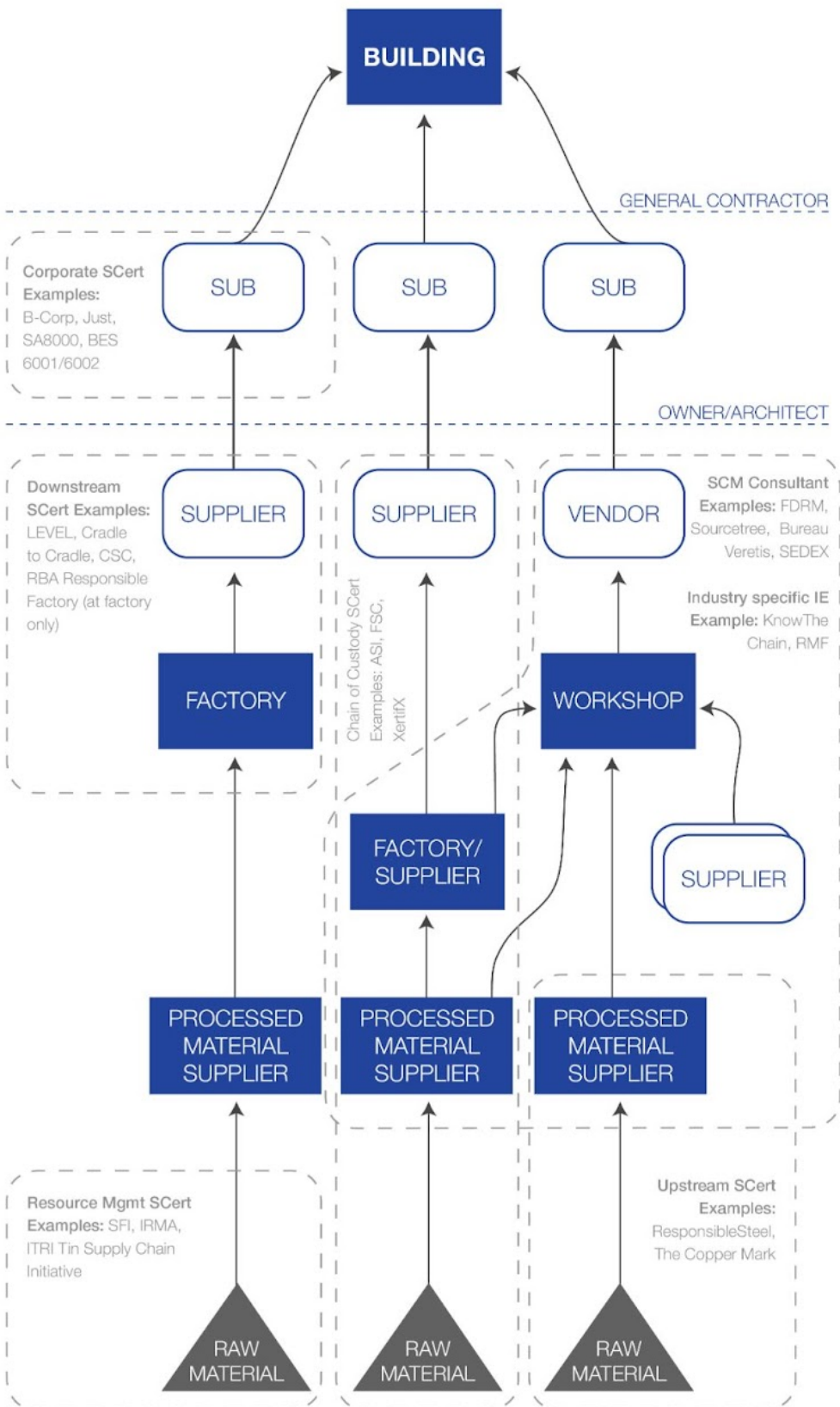| Company Name	FLF Metrics	Summary	Client Input Member Network Survey	Field Inspection Remote Research Automated	Public Records Regional Risk	Tiered
UN Global Compact Self-Assessment tool		Self-assessment tool created by the UN Global Compact, an association of companies that commit to sustainability and social responsibility principles. The assessment tool allows companies or organizations to evaluate themselves on human rights, labor, environment, and anti-corruption.	●			

BUILDING

GENERAL CONTRACTOR

Corporate SCert
Examples:
B-Corp, Just,
SA8000, BES
6001/6002

SUB

SUB

SUB

OWNER/ARCHITECT

Downstream
SCert Examples:
LEVEL, Cradle
to Cradle, CSC,
RBA Responsible
Factory (at factory
only)

SUPPLIER

SUPPLIER

VENDOR

SCM Consultant
Examples: FDRM,
Sourcetree, Bureau
Veretis, SEDEX

Industry specific IE
Example: KnowThe
Chain, RMF

FACTORY

WORKSHOP

Chain of Custody SCert
Examples: ASI, FSC,
XertifX

FACTORY/
SUPPLIER

SUPPLIER

PROCESSED
MATERIAL
SUPPLIER

PROCESSED
MATERIAL
SUPPLIER

PROCESSED
MATERIAL
SUPPLIER

Resource Mgmt SCert
Examples: SFI, IRMA,
ITRI Tin Supply Chain
Initiative

Upstream SCert
Examples:
ResponsibleSteel,
The Copper Mark

RAW
MATERIAL

RAW
MATERIAL

RAW
MATERIAL

FIGURE 1

How ethical labor services interact with Construction Supply Chains

Eliminating forced labor requires different approaches to ethical labor certifications and services at all tiers of a supply chain. We use a simplified diagram to demonstrate the integration of complementary labor certifications involved in the construction of a building.

Example certifications pulled from Table 1 are used to show where in the supply chain they could be applied. Some certifications could apply at multiple nodes. For example, Corporate SCerts can be attained by any company along a supply chain. Independent evaluators may choose to look at entire industries, or at all labor practices in a region, or any other parameters they outline in their research.

The diagram also illustrates the strengths and limitations of certification types. Upstream certifications have no bearing on the labor practices in companies that use their products. Downstream certified companies may rely on materials that are produced with high-risk labor. Chain of Custody certifications bridge this divide by requiring all companies along a supply chain to be certified or audited. SCM consultants may be hired by a company to evaluate their entire supply chain for risk of forced labor, which potentially includes a large and complex network.

The horizontal dashed lines represent where the owner, architect, and contractor can establish checks or filters to limit the use of high-risk products. The owner and architect can use specifications, contracts, and product selection to establish when certified products are required. The general contractor then meets these requirements by selecting vendors and subs that are certified or that can or source products with the necessary documentation.

In reality, eliminating forced labor from construction of a single project will require evaluating hundreds of suppliers, resulting in extremely complex and disaggregated networks of companies and potential certifications.

Discussion

Before analyzing how these different labor certifications can help designers work toward forced-labor-free projects, it is worth outlining where designers have the opportunity to promote fair labor values as well as the limitations of their role in the construction process.

The Designer's Role

As a nexus between all of the actors involved in a construction project – including owners, contractors, vendors, and users – the architect can be the first point of contact for educating the team about ethical design goals that relate to a project and the growing risk of neglecting to consider labor practices as part of the design process. These early conversations are critical for establishing fair labor practices as a goal and aligning team member expectations of what is possible. When clients are supportive of forced-labor-free goals, the architect must articulate how these goals will shape the project scope, schedule, and budget and provide resources and strategies to meet them.

With client support, architects can define requirements for materials and labor practices through specifications. Specifications must establish meaningful standards, taking into consideration existing labor certifications, while allowing flexibility so contractors can react to market pressures and deliver projects on budget and schedule. If specifications are too stringent, costs can be inflated or the schedule can stall if forced-labor-free certified products are unavailable.[26] Specifications that are too lenient can greatly reduce the number of forced-labor-free certified products that are implemented. However, as projects pioneer efforts to eliminate forced labor from the construction process, greater flexibility in product sourcing will initially be required and should not be framed as a tacit acceptance of slavery. An entirely forced-labor-free project is not a realistic first goal. Instead, flexibility is a necessary reaction to a marketplace that does not have widely available certified products. Designers working towards forced-labor-free projects should publicize their efforts to facilitate collaboration between like-minded teams and signal to the market that labor certifications are in demand.

Finally, during bidding and construction administration, the architect's role is to prevent or anticipate situations that may undermine forced-labor-free standards. For example, products with radically transparent supply chains and third-party certifications may be more expensive, and it can be tempting to compromise when cheaper, widely-used products are available. It is important for design teams to have access to a library of vetted products so they can offer compliant alternatives as needed. These

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[26] Hymes, "Front-End Specifications and Construction Claims."

libraries should be a collective effort and made publicly available so firms with limited resources can still contribute to forced-labor-free goals in the construction industry.

Ultimately, owners and designers are the consumers of building industry products. If they stop buying products that are not ethically produced and certified, suppliers will need to shift practices to stay competitive. In this way, designers can lead market transformation in the construction industry.

Analysis of Certification Types

The central role the designer plays in defining forced-labor-free goals and specifying compliant products requires a critical understanding of the available labor certifications relevant to the built environment. In working towards eliminating forced labor from a project, designers will need to leverage several approaches to the evaluation and certification of labor practices in the construction industry. We examined the strengths and limitations of each type of labor certification, highlighting the role each can play in a forced-labor-free construction project.

SCM Services: Discrete and Specific

SCM services are unique in their confidential relationship between the service provider and the client. SCM service websites emphasize that proprietary supply chain information is not made public in any of their reports or certifications. This allows the client to undergo an in-depth analysis of their supply chain without the risk of publicly disclosing protected or potentially detrimental information. Whereas a public report documenting forced labor in a company's supply chain might require immediate action to curb public outcry,[27] the discovery of forced labor by an SCM service is discrete, allowing companies to choose to act (or not act) based on their own risk assessment, especially if it is not economically beneficial or politically necessary. Furthermore, the client determines if and how to publicly release the results of the evaluation, which compromises the impartiality of the findings. However, private analysis of a supply chain may allow for incremental change within a company that would otherwise abstain from third-party evaluation in order to avoid potentially damaging findings.

It is unclear how retaining SCM services would help an architect meet forced-labor-free goals. At early stages in a design project, architects aggregate wide ranges of products and iterate quickly based on feedback and ownership direction. It would be impractical for an SCM to evaluate these options in real time. After the design process is completed, the architect typically has limited say in whether the specified product or an

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[27] For example, the KnowTheChain benchmark report, released biannually, details the suspected forced labor in the largest companies operating in Information and Communication Technology, Food and Beverage, and Apparel and Footwear. Their reports prompt news reports, public statements, and reactions by brands evaluated. See Kelly, "Hitachi and Canon Not Doing Enough to Tackle Forced Labour, Says New Report."; Bacchi, "Intel Tops List of Tech Companies Fighting Forced Labor."; Suleymanova, "Are Your Favourite Fashion Brands Using Forced Labour?". For access to the 2021 report, see: KnowTheChain, "2020/2021 Benchmark."

equivalent is used. Therefore, even if an SCM were to evaluate final product selections, these may not be the products that are ultimately used by the contractor during construction. However, an SCM firm may be able to direct an architect toward privately verified forced-labor-free products and companies they have worked with. If a particular industry has little or no third-party certifications available, SCM services may be able to collaborate with a supplier to introduce a new certified product into the market.

In summary, SCM services are most suited for product manufacturers that want to eliminate slavery from their supply chains. SCM services offer the benefit of confidential evaluations, allowing companies to incrementally improve labor practices within their supply chains. SCM firms can also help companies work toward third-party supplier certifications by improving supply chain transparency, preparing required documentation, and applying for certification.

Supplier Certification: Accessible and Disparate

Supplier Certifications are valuable because they publicly outline the standards being evaluated (labor, sustainability, chain of custody, etc.) and the extent to which a company meets these standards, often with numerical or tiered rankings. These certifications can shift market demand by empowering consumers to choose certified products over those without certifications. Certification websites often maintain searchable lists of members and publicly disclose their evaluation reports, enabling motivated consumers to do detailed research.[28]

Despite these benefits, the volume and variety of supplier certifications can make it difficult to interpret ratings when comparing labor standards between products. Certifications can vary by industry and even by product within an industry. For example, supplier certifications in the mining industry are specific to the ore being extracted (The Copper Mark certifies copper, the Aluminum Stewardship Initiative certifies aluminum, etc.), even though they regulate similar labor practices. In addition, some certifications have rigorous standards enforced by third-party evaluation while others have more vague requirements evaluated primarily on the basis of self-reported information. Having many competing certifications with varied standards requires research that may be too cumbersome for designers iterating during early stages of the design process. This drawback has been documented with sustainability certifications which are used to market products as green while only providing vague, unverifiable, or unsubstantiated claims about a product being sustainable. Known as "greenwashing", these subpar certifications intentionally mimic the aesthetics and goals of well-known and vetted certifications to deceive customers.[29]

To avoid the risk of misleading or fraudulent supplier certifications, it is essential to have third-party evaluation of certifiers. In addition, establishing

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[28] The Global Green Tag certification, for example, contains a product finder that allows consumers to search for certified products and view a detailed breakdown of their performance or product declarations. See Global Green Tag, "Product Finder."
[29] Delmas and Burbano, "The Drivers of Greenwashing."

universal benchmarks for labor conditions and auditing practices would allow consumers to directly compare products with different certifications and would streamline the certification process for manufacturers, which would incentivize companies to adopt forced-labor-free certifications.[30]

Independent Evaluation: Universal and Non-specific

Independent evaluators (IE) play a crucial role in assessing global trends in labor practices for the built environment. IEs, especially those that are not financially connected to the industries they evaluate, can offer objective analyses of known labor issues and potential risk based on regional or industry norms. If an IE identifies pervasive and unbridled forced-labor practices in a particular industry or region, this should be considered by teams pursuing forced-labor-free goals, even for certified products in that region.

The efforts of IEs to document, analyze, and predict the risk of forced labor serves as the foundation for regional risk assessment, which benefits consumers, businesses, and certifiers. For example, many certifications require additional or more stringent auditing of companies operating in high-risk regions identified by IEs. The social benefit of publicly available, high-quality reports on forced labor trends cannot be overstated. However, regional or industry level analysis can also lead to undue scrutiny on good actors in high-risk regions and industries or allow bad actors in low-risk areas to operate with less oversight. Therefore, no matter how high or low the regional risk, a team cannot assume a product is forced-labor-free unless it has been specifically vetted.

What is possible now

With the current suite of certifications and tools available, designers can take meaningful steps toward developing forced-labor-free projects. Many of the forced-labor-free certifications identified in this paper maintain databases of certified companies. Using these resources, designers can build libraries of certified materials to be specified in new projects. The more certified products are introduced into material libraries, the better chance designers have of creating beautiful projects that meet ethical labor standards.

When enough forced-labor-free certified products are available to allow for competitive bidding, designers can write specifications that explicitly require certified products. This, along with publicizing efforts, will signal to suppliers that the market is shifting in favor of fair labor practices. Specifications are concrete evidence of client desires and give suppliers the rationale to invest in forced-labor-free certifications.

BOX 6

Steps we can take today:

- Incorporate certified products into material libraries for use in projects.
- Incorporate certification requirements into project specifications.
- Work with ambitious projects teams to forge new supply networks that include certified products and companies.
- Avoid high-risk materials and products.

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[30] An initiative working in this direction is the Health Product Declaration Collaborative. Health Product Declarations are systematized reporting frameworks that companies can use to transparently disclose their product content and apply for certifications. They are currently exploring a Social Equity category as part of their declarations. See HPDC, "HPDC Launches Social Equity Working Group To Implement New Measures In Building Industry."

For products or regions with few forced-labor-free certified options, the design team can lead early conversations with the owner and contractor to allocate time and resources to sourcing forced-labor-free certified materials. For example, a local concrete subcontractor may not have experience sourcing rebar from a company that is ResponsibleSteel Certified, but a project team can network with certified companies to introduce certified steel into their local building industry.

For products with limited or no forced-labor-free certifications, designers can make good-faith efforts to reduce the risk of forced labor by avoiding materials that have been documented to rely on criminal labor practices. Cobalt, for example, is notorious for forced labor violations. Architects can eliminate cobalt glass, bricks with cobalt additives, blue paints with cobalt pigment, and perform independent audits of products to avoid using cobalt in their projects. Designers can also source products locally and from regions with a low risk of forced labor or avoid regions with a high-risk of forced labor until more precise metrics for evaluating supply chains become available. The 12 high-risk materials outlined in the Design For Freedom report can serve as a starting point for designers seeking to reduce forced labor in their projects with limited resources.

Future Directions

Slavery has been documented in almost all parts of a building at all levels of its production. As designers, we cannot blame complex or opaque supply chains while we continue to indiscriminately specify products that benefit from slavery. We cannot passively wait for industry norms to change; slavery is illegal and still persists. Problematic labor practices will remain hidden until we take decisive action to expose and eradicate them.

A crucial element for universal application of anti-slavery measures is the adoption and enforcement of laws that require robust labor certification. In 2016, President Barack Obama signed the Trade Facilitation and Trade Enforcement Act into law, which allows the government to seize goods produced with forced labor at our borders.[31] On January 13th, 2021, the US government issued a withhold release order (WRO) and began detaining all cotton and tomato products coming from the Xinjiang region of China due to credible evidence that forced labor is widely used in their production.[32] Companies reliant on the affected suppliers must seek alternate sources until labor practices in the region improve or else risk detained shipments.[33] This example is one of nine recently issued WROs, indicating a shift in US customs policy toward thorough enforcement of the 2016 law. In response to this shift, companies will need to practice more robust supply chain tracing to avoid the risk of their goods being detained. Though it may be viewed as a burden now, this increased surveillance can lead to innovations in supply chain management and act as a much-needed

Steps we can take to create long-term change:

- Advocate for and support the enforcement of policies that require supply chain transparency and certification of high-risk goods.
- Advocate for labor certification requirements in local building codes.
- Build and share comprehensive material libraries of vetted products and exemplary companies.
- Support investigative reporting and analysis of certifications by third parties to evaluate their efficacy.
- Develop and implement project-level certifications of projects similar to LEED or Passive House certifications for sustainability.

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[31] Mendoza, "Obama Bans US Imports of Slave-Produced Goods."
[32] USCBP, "CBP Issues Region-Wide Withhold Release Order on Products Made by Slave Labor in Xinjiang."
[33] Goodman, Wang, and Paton, "Global Brands Find It Hard to Untangle Themselves From Xinjiang Cotton."

incentive for companies to restructure arcane and opaque supply chain practices that enable criminal labor practices. Design firms should advocate for similar policies that strongly disincentivize the use of building materials produced using forced labor.

Further, requirements for forced-labor-free certifications can be incorporated into building codes and more strictly enforced during inspections. While it may seem redundant to require certification that companies are not breaking international and domestic laws, we see similar requirements in other regulated products. For example, national, regional, and state laws limit the levels of Volatile Organic Compounds (VOCs) in paints. While it is illegal to surpass the accepted levels of VOCs, architects and construction managers do not assume all products are in compliance by default. Instead, submittals that explicitly state VOC content are reviewed and kept on record. Similarly, the construction industry cannot simply assume products do not have slavery in their supply chains, even in highly regulated markets like the US. Assurances of forced-labor-free chains of custody should be submitted and filed in a consistent and legally binding process. This downstream accountability will create demand for forced-labor-free certifications from upstream operations.

Thoroughly vetted libraries of forced-labor-free certified materials should be created and shared by design professionals. Similar initiatives already exist for sustainable and healthy materials. To avoid parallel efforts, forced-labor-free certifications should be merged with existing libraries for sustainable and healthy materials.

A key limitation of this survey is its reliance on certifier websites to evaluate labor certifications for the built environment. Third party auditing of certifiers would be required to evaluate the veracity of these claims. Moving forward, it is essential that benchmarks are established to evaluate the transparency, rigor, and efficacy of labor certifications for the built environment. Third-party research will help establish norms and minimum requirements for certifications and help consumers to make informed decisions about which certifications to seek out.

Finally, missing from the current landscape of certifications is a project-level certification specific to construction. Comparable certifications for sustainability include LEED and Passive House. LEED recently introduced three Social Equity pilot credits, but the requirements for these points are not comprehensive enough to characterize a project as forced-labor-free.[34] Developing an aggregate score based on all building components and labor practices has the potential to facilitate market transformation.

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[34] Of the three social equity pilot credits, the first two most directly address forced labor practices. Social Equity within the Project team requires that at least 50% of the project team work for an organization with corporate responsibility certification or that the workers be paid prevailing wages and offered educational opportunities. Social Equity in the Community requires that 3 permanent products by at least 2 companies be certified. Both offer the option to propose an equivalent substitution to be reviewed by the USGBC. See Todd, "USGBC Accelerates Social Equity with New LEED Credits."

Conclusion

The Design for Freedom Report reveals that forced labor is implicated in virtually all components of the built environment, from industry supply chains to labor practices on construction sites. As designers, we have the opportunity to address slavery in the construction industry by encouraging the use of forced-labor-free certified materials. In seeking to eliminate slavery from our own projects, COOKFOX identified a large number of existing labor certifications for the built environment, each with varying methodologies and standards. We sought to enumerate, categorize, and critically evaluate these labor certifications as a resource for designers working towards forced labor free goals. Finally, we assessed the strengths, weaknesses, and focus of these certifications on ethical labor practices.

We recognize that eliminating forced labor from the construction industry is an overwhelming task. Therefore, we propose simple steps that individual designers can take to incorporate more forced labor free materials into their projects as well as changes we can make as an industry to incentivize transparent and fair labor practices in product manufacturing and construction for the built environment. We suggest long-term change can be advanced by advocating for policies and building codes that require robust certifications for high-risk materials, working with researchers to evaluate the efficacy of product certifications and develop project-level certifications, and sharing libraries of certified products so designers can easily incorporate them into projects.

By making this survey of labor certifications in the construction industry publicly available, we hope to empower designers to advocate for forced labor free goals while signaling to the broader industry that supply chain transparency and fair labor should be critically considered when selecting products. We identify tools and steps we can take as designers to start making a difference today and, as more join their efforts together, to build momentum for even greater change going forward.

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