

*Risk Control  
Industry Guide Series*

**Concrete Contractors Industry**



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This study reflects on information derived from insurance claims. These claims form a database that can be analyzed to determine the many and varied causes of loss. CNA Risk Control presents this study of specific CNA claims and industry trends. We begin with a review of exposures inherent to the concrete contractors industry and conclude with suggested practices to manage these risks.

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## Concrete Contractors Industry Defined

The purpose of this study is to improve profitability in the concrete contractors industry. Concrete contractor companies can be involved with grading, gravel, form work, placement of reinforcing materials or components, mixing or pouring concrete and finishing, sealing, touch-up, setting or tilt-up of precast components, traffic control at site or site access, and other various activities involved in mobilization and de-mobilization. Work may include curbs, sidewalks, flatwork, decorative concrete, foundations, retaining walls, poured walls or precast work. No matter your specialty or “*niche*,” concrete contractors must also be in the business of safety and risk management.

When the employee gets injured at work, the claim will likely be addressed through Workers’ Compensation coverage. When an owner, neighboring dwelling, subcontractor, the public or other non-employee makes a claim, it is typically addressed through the general liability coverage. When one of your employees is driving on your behalf, a claim made for your vehicle or for another person’s vehicle or property would be addressed through the auto coverage. At times, there will be a potential for “*overlapping*.” If a company employee is driving on the company’s behalf, has a vehicle accident, and is injured, this may result in a workers’ compensation claim for injury and an auto claim for damage to vehicle. This example represents how a single incident can impact more than one line of coverage.

## Concrete Contractors: An Analysis of Loss Exposures in the Concrete Contractors Industry

Concrete contractors encounter many loss exposures. These include employee injury, vehicle accidents, utility contact, liability claims from many areas such as traffic control, pedestrians and equipment. Claim activity for the concrete contractors industry has been collected (by CNA for the years 2004 through 2007 and analyzed to identify trends. These trends or loss areas will be listed below per line of coverage. These trends or loss areas will be listed below per line of coverage.

### Workers’ Compensation Claims

*By Type of Incident Causing the Injury, Shown as a Percentage of Total Claims*

<b>Incident Type</b>	<b>Percent of Total Claims</b>
Struck By	25%
Manual Handling/Physical Stress	18%
Slips/Trips/Falls	10%

*Shown as a Percentage of Total Claim Dollars*

<b>Incident Type</b>	<b>Percent of Total Claim Dollars</b>
Slips/Trips/Falls	45%
Struck By	17%
Manual Handling/Physical Stress	11%

The data indicates that worker injuries are most likely caused by slips/trips/falls, manual handling and struck by incidents. Those same claim types represent the highest severity of claims (cost in terms of claim dollars paid), with slips/trips/falls being the highest in claim dollars paid.

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## Struck By - How It Contributes to Many Accident Types

Claims related to struck by incidents usually include being struck by construction equipment such as concrete buckets or chutes, cranes, excavators, and vehicles on the job site. Workers can also be injured when struck by material falling on them including rebar, ties, dirt and aggregate or concrete, etc. These can result in cuts, contusion, abrasions, broken or crushed bones, etc.

## Manual Handling – How It Contributes to Many Accident Types

Claims related to manual handling include strains, hernia rupture, sprains to the lower back, shoulders and knees that were mainly associated with moving/pulling/pouring and finishing concrete, using/moving machinery, materials and equipment.

Many of the manual material handling overexertion injuries are the result of employees bending, lifting and reaching throughout the day due to their work, materials and equipment being positioned on the ground. The average employee who bends 100 times a day, working 250 days a year will bend 25,000 times annually, exacerbating the risk factor and increasing the probability of developing low back pain. The same factors can also contribute to one of this industry's loss leaders, slips, trips, and falls. The fatigue, handling and inefficient movement further enhances the potential for slips or trips on an already challenging walk surface.

## Slips, Trips and Falls – How It Contributes to Many Accident Types

The slips/trips and falls included in this data appear to have circumstances common to construction sites. Included are slips/trips and falls from working on uneven surfaces, slick surfaces from being wet, icy, muddy, etc., slips, trips and falls when mounting/dismounting equipment and trucks when working in areas of poor housekeeping. Some were from ascending or descending stairs or ladders. These can result in sprains, strains, cuts, broken bones, contusions, etc.

## Auto Claims

*By Type of Incident Causing the Loss, Shown as a Percentage of Total Claims*

<b>Incident Type</b>	<b>Percent of Total Claims</b>
Rear-ended Other Vehicle	21%
Backing	10%
Lane Change	5%

*Shown as a Percentage of Total Claim Dollars*

<b>Incident Type</b>	<b>Percent of Total Claim Dollars</b>
Rear-ended Other Vehicle	34%
Failure to Yield	10%
Lost Control of Vehicle – Left Road	8%

Analysis of auto claims data reveals that rear-ended other vehicles had the highest number of claims and the highest severity. Driver inattentiveness and the lack of concentration are the primary factors in rear-ends, failure to yield and the vehicle leaving the road accidents. Other factors are aggressive driving, time management, and route planning.

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## Rear-ended Other Vehicle

Rear-ending type accidents occur when a driver is following too close for conditions, when the driver is distracted, or when the vehicle has mechanical problems. Drivers are distracted by situations outside of the vehicle and inside the vehicle. Companies must help control distractions inside the vehicle and make drivers aware of maintaining adequate distance from the vehicle ahead of them.

This raises the concept of human factors in the cab and how many stimuli the brain can handle while driving/operating a vehicle.

## Failure to Yield

Failure to yield type accidents can result when the driver is distracted, or when the vehicle has mechanical problems. Drivers are distracted by situations outside of the vehicle and inside the vehicle. Companies must help control distractions inside the vehicle and make drivers aware of maintaining adequate distance from the vehicle ahead of them.

## General Liability Claims

*By Type of Incident Causing the Loss, Shown as a Percentage of Total Claims*

Incident Type	Percent of Total Claims
Leaking/Seeping	46%
Damage Not Otherwise Classified	44%
Fire/Explosion	6%

*Shown as a Percentage of Total Claim Dollars*

Incident Type	Percent of Total Claim Dollars
Leaking/Seeping	37%
Fire/Explosion	23%
Damage Not Other Classified	22 %

Leaking/seeping incident types lead both frequency and severity as loss leaders. These types of claims are typically managed through application of basic quality control principles.

## Suggested Practices

### Impacting Profitability

Safety and risk management are key elements that can greatly impact the profitability of the concrete contractors industry. Poor management can lead to an increase in incidents and accidents resulting in higher costs and greater losses. To better understand the negative impact on this industry, following are some of the specific elements that can affect profitability:

- **Direct** and **Indirect** cost of the accident or incident – The hard or tangible costs resulting from the occurrence are the direct costs, i.e., treatment or repair costs, and are fairly easy to track. Larger costs can result from indirect costs, i.e., lost time of supervisor and crew around the scene, dropped tools, and contract delays, and can run between 4 to 10 times that of direct costs.

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- **Regulatory Fines** – Regulatory agencies can and will issue citations and fines for any deficiencies in safety and risk management practices that have governing standards.
  - Increases in the frequency of incidents or accidents leads to a potential increase in the severity. This increase in frequency and severity can lead to an increase in your **Experience Modification Rate (EMR)**. This rate is a complex derivation from your actual loss data. Every business starts with an EMR of 1.00 Good experience (low claim activity) will result in an EMR less than 1.00 Poor experience (high claim activity) will result in an EMR higher than 1.00. Insurance rates start at an established point and then are basically multiplied by the EMR. You can see that a low EMR lowers the rate and a high EMR raises the rate. This alone can effect how you compete in the bidding process. There are some owners or contract holders that will not allow anyone to bid at all if they do not have an EMR that is 1.00 or lower.
  - **Recovery** of loss costs is another area impacting profitability. Everyone should know their company's profit margin. You can use that factor to find out how much *new business* must be generated to cover the cost of the loss. For example, a company operating with a profit margin of 5 percent would have to generate \$20,000 worth of new business to recover \$1,000 lost in an incident or accident. If that same company's profit margin was 1 percent, they would need to generate \$100,000 of new business to recover the same \$1,000.

Injuries from manual handling, struck by and slips, trips, and falls can be addressed through the development and implementation of CNA's Motion is Money process. By examining the staging, positioning, work flow and work method techniques of the employees, you will be able to develop business solutions and make changes that will reduce or eliminate the exposures. Evaluating these activities through the application of human factors, Lean and engineering methodologies to identify and analyze non-value added task elements such as walking, bending, reaching, and twisting is critical to achieving a reduction in risk, improvement in productivity and enhancement in quality.

CNA offers construction specialists who can assist in the development and implementation of a comprehensive safety program involving the Motion is Money process and other safety processes to address the workers' compensation exposures discussed in this guide.

In addition, we offer the Motion is Money pocket guide for superintendents and foremen to conduct observations and measures on the job site to better understand where productivity improvements can be made.

The fleet safety process should be approached from a human factor perspective (the iteration of workers abilities to job requirements) for both in and out of the cab behaviors such as eating, drinking, smoking while driving, climbing in/out of vehicles and raising and lowering trailers.

Fleet safety is an essential part of any business' safety program. Few companies can operate without at least occasionally reimbursing (paying mileage, fuel, extra work hours, allowance) employees to drive their personal vehicle for company/business use. Companies have exposure to auto claims whether they own their vehicles or reimburse employees to drive personal vehicles on company business. The data indicates that accidents in which the insured driver rear-ended other vehicles are the leading loss source in terms of accident frequency and severity.

Developing motor vehicle report (MVR) criteria, a point system for evaluating driver violations, driver orientation, drug testing of employees, and maintenance tracking of company-owned vehicles should be a part of a written, comprehensive fleet process.

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Contractors have a unique situation where they complete heavy physical work throughout the day resulting in the accumulation of fatigue (both mental and physical) that can affect their reaction time while driving. Management must have an understanding of this issue and educate their employees as well as develop and implement in-cab behavior guidelines to address the mental and physical fatigue levels. Concrete contractors must begin to explore beyond the traditional vehicle education and training methods and expand into understanding and incorporating human factors methodologies into their fleet. As a result, CNA offers a Fleet Institute for contractors to address the issues and exposures presented in this study.

In addition, CNA has fleet and ergonomic specialists who can assist in the development and implementation of a comprehensive fleet process. CNA offers resources to aid in the implementation of a fleet safety program, including guides and bulletins on managing fleet safety, accident prevention and driver safety awareness. Furthermore, to meet the needs of our insureds, CNA has customized fleet courses that are instructor-led or Webinar-based for addressing your fleet issues.

A formal, written quality control program should be established with basic procedural requirements. The requirements can be customized for your company. It must outline mandatory training, what, when and how to document work, concerns, damages, pre-work, subcontracted work, etc., and minimum sign-off issues defined. Some of the areas you can include in your custom program are included in this paragraph. Employees should be trained on the program and how to apply it. The program should be designed to follow the flow of work starting with a thorough review of all plans and specifications to ensure that all potential exposures are addressed at the level needed. If program changes are made or required, companies need to ensure that all change orders are in writing and properly signed by an authorized person. Any subcontracted work must have full risk transfer in place between the company and the subcontractor. This includes subcontract agreements that specifically address quality requirements. Companies should attain documentation from the contract holder that any required preparation work has been completed and authorization has been given to begin work. The program should also include steps to receive and retain all necessary quality documents from material suppliers, i.e., application systems, manufacturer's specifications, and warranty enforcement. As work begins, site supervisors must make documented quality inspections on a regular basis, pictures are always recommended as part of the documentation process. Construction defects or questionable work/material quality should be inspected jointly by the company, the contract holder or their representative with sign-off where applicable. The key to a company's success is to make the quality review process part of the daily business practices.

Fire and explosion hazards are typically reduced through proper control, handling and storage of flammable and combustible liquids and materials. The Material Safety Data Sheet (MSDS) and governing standards like the Occupational Safety and Health Administration (OSHA) and the National Fire Protection Association (NFPA) give guidance on safe handling, control and storage. Controlling "fuel sources" is one of the steps. The second is controlling "ignition sources." Smoking, flames, and sparks must all be considered and controlled.

### **Assistance / Resources**

CNA is one of the largest insurers of commercial contractors in the United States. CNA works closely with your independent agent to provide products and services to meet your insurance needs. CNA offers construction specialists who can assist in the development and implementation of a comprehensive safety program involving the Motion is Money process, fleet program development or enhancement and other safety processes to address the exposures discussed in this guide. CNA also offers exposure guides such as Risk Transfer: A Strategy to Help Protect Your Business as well as bulletins titled Safety Responsibility of Job Site Foreman and Slip and Fall Procedures on Job Sites.

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With quality protection from CNA and dedicated customer service from your agent, you have the freedom to focus on what you do best – manage your business.

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## School of Risk Control Excellence

### Courses applicable for the Concrete Contractors Industry:

- Case Management – A Partner With Workers’ Compensation** – Addresses techniques to maximize the delivery of healthcare and return-to-work outcome
- Concrete Contractors Boot Camp** – Addresses industry loss drivers from a safety and measures can be adopted
- Contractor Utility Disruption** – Offers precautionary practices to follow prior to the start of any underground work
- Controlling Equipment Theft** – Identifies ways to control equipment theft and mitigate the associated risks
- Drug and Alcohol Prevention** – Identifies ways to properly manage the work risks and legal issues of drug screening with pre-employment, post-accident, reasonable suspicion and random testing
- Excavation Safety – National Utility Contractors Association (NUCA) Certification** – Includes Subpart P – Excavation Standard definitions, requirements for protective systems, soil classification and handling an OSHA inspection
- Federal Highway/Harwood Grant Training – A Road Construction Industry Consortium Training Program** – Addresses problems that are causing accidents based on data from insurance claims
- Lower Back Pain and Manual Material Handling** – Covers symptoms, characteristics and risk factors that contribute to the development of lower back pain
- OSHA 10-Hour for Construction** – Provides training on construction safety, health and emphasizes hazard identification, avoidance, control and prevention
- Return-to-Work Process** – Explores elements of the return-to-work process and workers’ compensation requirements
- Risk Transfer for Construction** – Addresses strategies for allocating and insuring risks to help minimize exposure and shift it to the responsible party

To find out more about these classes, go to: [www.cna.com/riskcontrol](http://www.cna.com/riskcontrol)

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To learn more about how CNA Risk Control can work with you to help you mitigate risks, please speak with your local independent agent, call us toll-free at 866-262-0540, or view our Risk Control tools online at [www.cna.com/riskcontrol](http://www.cna.com/riskcontrol).

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