

 AN TOÀN NAM VIỆT



LABOR SAFETY

DOCUMENTS FOR AUTOMOBILE PRODUCTION



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The Automobile Manufacturing Safety Manual provides extensive knowledge on safety measures and regulations in the car manufacturing process. From ensuring worker safety to complying with quality standards, this manual paints a comprehensive picture of the automotive industry and its efforts to prioritize safety.

PART I: CURRENT SITUATION OF SAFETY WORK IN THE AUTOMOBILE MANUFACTURING INDUSTRY

I. General Situation

The Ministry of Labor, War Invalids, and Social Affairs reports to various sectors and localities about the situation of labor accidents in the first six months of 2023 and some key solutions to proactively prevent incidents and labor accidents in the last six months of 2023.

According to reports from all 63 provinces and centrally-run cities, in the first six months of 2023, there were 3,201 labor accidents nationwide (a decrease of 707 cases, equivalent to 18.09% compared to the first six months of 2022), resulting in 3,262 casualties (a decrease of 739 people, equivalent to 18.47% compared to the first six months of 2022). This includes both areas with labor relations and areas where workers are not in labor contracts. Notably:

- Fatal labor accidents: 345 cases, a decrease of 21 cases, equivalent to 5.74% compared to the first six months of 2022. In labor relations areas: 273 cases, a decrease of 19 cases, equivalent to 6.5% compared to the first six months of 2022; in non-contract labor areas: 72 cases, a decrease of 2 cases, equivalent to 2.70% compared to the first six months of 2022.
- Deaths from labor accidents: 353 deaths, a decrease of 27 deaths, equivalent to 7.11% compared to the first six months of 2022. In labor relations areas: 281 deaths, a decrease of 18 deaths, equivalent to 6.02% compared to the first six months of 2022; in non-contract labor areas: 72 deaths, a decrease of 9 deaths, equivalent to 11.11% compared to the first six months of 2022.
- Serious injuries: 784 people, a decrease of 23 people, equivalent to 2.85% compared to the first six months of 2022. In labor relations areas: 715 people, an increase of 26 people, equivalent to 3.77% compared to the first six months of 2022; in non-contract labor areas: 69 people, a decrease of 49 people, equivalent to 41.53% compared to the first six months of 2022.

II. Some Notable Accidents in the Automobile Manufacturing Industry

The following are some notable accidents that have occurred in the history of this industry, highlighting the importance of maintaining and enhancing safety during the automobile manufacturing process.

1. **Fuel Injection Autoclave Explosion at a Leading Car Factory:** In a notable incident, a leading car manufacturing plant faced a fuel injection autoclave explosion. This accident not only caused property loss but also affected production motivation and worker safety.



2. **Automatic Welding Robot Accidents:** Automation in car manufacturing has brought many benefits but also risks. Several accidents caused by malfunctioning automatic welding robots have raised challenges in ensuring safety and control in the work environment.



3. **Hazardous Substance Leakage:** In some cases, car manufacturing plants have faced the issue of hazardous substance leakage into the surrounding environment. This not only affects the company's image but also increases the risk of legal and environmental consequences.



These accidents underscore the necessity of applying high safety standards and maintaining continuous attention to the automobile manufacturing process. Manufacturers must continually strive to ensure a safe and sustainable working environment for the benefit of the community and workers.

PART II: OCCUPATIONAL SAFETY AND HYGIENE IN AUTOMOBILE MANUFACTURING

I. Occupational Safety and Hygiene for Car Design Staff

1. **Characteristics of Car Design Work:**
 - The field of car design requires a combination of artistic talent, deep technical knowledge, and market trends understanding. Car designers must have the ability to comprehend car structure, materials used, and technical foundations to create efficient engine models.
 - The work starts by analyzing customer requirements and market trends. Designers must ensure that their products meet safety and performance criteria while reflecting innovation and style. The use of 3D simulation technology helps them

create detailed models and check the feasibility and performance of cars before mass production.

- Additionally, understanding design trends and drawing creative inspiration is crucial to creating interesting and popular car lines. Finally, car designers must have the ability to work in teams, collaborating with mechanical engineers and other experts to ensure ideas are smoothly and efficiently transformed into real products.



2. Types of Accidents During Car Design:

- In the car design process, designers and engineers face many challenges and potential accident risks that can affect the safety and performance of vehicles. A common type of accident is the conflict between design elements such as the size and shape of the vehicle with safety requirements and industry standards.
- Material-related accidents are another important aspect, as incorrect material choices can lead to reduced durability and impact resistance of the car. Additionally, errors in simulation and testing can result in unsafe designs in reality.
- Another challenge is technology-related accidents, especially when integrating automated and intelligent systems. Software or sensor errors can cause unexpected accidents, posing challenges in ensuring the safety and reliability of these features.
- To minimize accidents during car design, experts must continue researching, testing, simulating, and integrating advanced safety technologies into the design process to ensure that each car produced meets the highest safety standards.

3. Causes of Accidents During Car Design:

- Accidents during car design can stem from various causes. One important factor is the lack of comprehensive understanding of safety requirements and industry standards. When designers do not pay enough attention to relevant regulations, the likelihood of design and production errors increases.
 - The lack of interaction between car components is another issue that can lead to accidents. When there is no synchronization between systems and components, unforeseen incidents can occur during operation, posing safety risks.
 - Another cause is the time and cost pressures during car development. Sometimes, to meet market demands quickly, manufacturers may reduce the time spent on design and testing, leading to skipping important steps in the process.
 - Finally, the lack of attention to new technology trends is a potential cause. When not applying advancements in automation and safety, cars can become outdated and fail to cope with the increasingly complex traffic environment.
 - To minimize accident risks, designers need to focus on enhancing in-depth knowledge, maintaining interaction between components, and ensuring that the design process is carried out carefully and comprehensively.
4. **Measures to Prevent Accidents During Car Design:**
- To minimize accident risks during car design, preventive measures play a crucial role. Focusing on researching and developing new safety technologies is key. Automated systems such as automatic braking and collision warnings can prevent or minimize accidents.
 - Emphasizing materials is another important measure. Using lightweight but high-strength materials enhances the car's impact resistance, reducing injuries to passengers in the event of an accident.
 - The car design community is increasingly leaning towards the concept of "smart teammates," where vehicles can communicate with each other to avoid collisions. Integrating smart cars and intelligent transportation systems helps create a safer road environment.
 - Additionally, continuous training and knowledge enhancement for designers about safety standards and new trends are important in promoting understanding and awareness of car safety in the industry.
5. **Labor Safety Regulations During Car Design:**
- During the car design process, complying with labor safety regulations is undeniable. Design and engineering experts must adhere to safety standards to protect their health and safety as well as their colleagues.
 - Regulations include the use of personal protective equipment such as helmets and protective glasses to reduce risks from hazards like chemical waste and sharp materials during work. Keeping the workplace clean and comfortable is also an important part of labor safety regulations.
 - Experts need to be trained in the safe use of tools and machinery to avoid accidents during car design and testing. Additionally, regulations include ensuring that working areas are designed to minimize accident and injury risks.
 - Labor safety regulations not only ensure personal safety but also are crucial to ensuring that all car design processes comply with the highest standards, creating a final product that guarantees safety and quality.
6. **Emergency Accident Handling During Car Design:**

- Facing accident situations is inevitable during the car design process. Therefore, emergency handling becomes an important part of the design process. When detecting an issue, experts need to immediately apply safety measures to minimize losses.
- Integrating safety systems such as airbags and emergency braking systems is key to minimizing damage when accidents occur. This requires engineers to have a deep understanding of integrating and controlling these systems to ensure accurate operation in all situations.
- Additionally, using advanced technology such as collision detection sensors and cameras helps cars detect collision risks early, increasing the chance to activate safety systems. Training engineers and staff on how to deal with emergency situations is also crucial to ensuring responsiveness and effectiveness in emergencies during car design.

II. Occupational Safety and Hygiene for Auto Parts Manufacturing Staff

1. Characteristics of Auto Parts Manufacturing Work:

- Auto parts manufacturing is a complex process requiring in-depth expertise and high skills. The job characteristics include researching, developing, and manufacturing necessary components to ensure car performance and safety. Experts in this field must have solid knowledge of materials, manufacturing techniques, and production processes.
- Auto parts manufacturing often involves using advanced technology such as CNC machines to cut, process, and shape parts. Additionally, solid understanding of 3D design techniques is crucial for creating precise and efficient products. Experts often work in professional manufacturing environments with strict standards to ensure product quality and safety.
- Moreover, the job includes keeping up with industry trends and new technologies to apply these advancements to the production process. Experts frequently interact with different departments during product development to ensure compatibility and integrity of parts with the entire car. This requires excellent communication and teamwork skills to achieve the best results in auto parts manufacturing.



2. Types of Accidents During Auto Parts Manufacturing:

- During auto parts manufacturing, many accident risks can occur, especially when dealing with industrial equipment and complex production processes. One of the main risks is machinery and equipment-related accidents. These accidents can result from improper industrial machine use, lack of regular maintenance, or technical failures.
- Additionally, material risks are significant. Working with metals, plastics, or composites can sometimes lead to accidents due to issues during processing and material handling. This requires strict adherence to safety rules and proper use of labor protection.
- Furthermore, accidents can result from human factors, especially when working near moving equipment. Lack of attention, fatigue, or failure to follow safety rules are common causes. To minimize risks, training employees on labor safety and establishing safety measures are crucial in the auto parts manufacturing process.

3. Causes of Accidents During Auto Parts Manufacturing:

- Accidents during auto parts manufacturing can arise from various causes. One main factor is the lack of safety management in the workplace. Failure to establish and maintain safety standards and lack of understanding of safety procedures make the work environment highly risky.
- Other causes can stem from insufficient training or lack of attention to adhering to labor safety rules. Employees not properly trained on machine and equipment use can lead to errors and accidents.
- Technical failures, including errors in production processes and design, are also major causes of accidents. Inadequate control over material quality and final

products can lead to unwanted errors, affecting the safety and performance of auto parts.

- In summary, to minimize accident risks in auto parts manufacturing, focusing on safety management, employee training, and quality control is crucial.

4. **Measures to Prevent Accidents During Auto Parts Manufacturing:**

- To prevent accidents in auto parts manufacturing, establishing and maintaining a labor safety training program is crucial. First, training employees on safe machine and equipment use helps minimize risks from worker errors.
- The training program should also focus on adhering to safety rules and labor protection measures. Employees need to know how to use protective tools and equipment correctly and understand safety procedures while working.
- Regular equipment inspection and maintenance are also important measures to ensure that all tools and machines operate correctly, reducing the risk of accidents from technical failures.
- Moreover, establishing a quality control system for products and production processes helps ensure that auto parts are manufactured correctly, reducing the risk of accidents from technical and design errors.

5. **Labor Safety Regulations During Auto Parts Manufacturing:**

- Labor safety regulations in the auto parts manufacturing process are crucial for ensuring a safe and effective working environment. Manufacturers often have to comply with strict safety standards set by regulatory agencies and professional organizations.
- Employees are usually trained on safety measures and the use of labor protection equipment. This regulation ensures they have a full understanding of how to use machinery and equipment safely and how to handle manufacturing materials.
- Additionally, safety regulations focus on controlling risks from chemicals used in auto parts manufacturing. Measures such as safety notices, guidelines, and safe material storage are important parts of this process.
- Regular inspection and maintenance systems for equipment are also set to ensure all tools and machines operate correctly. All these measures collectively create a safe and reliable working environment in the auto parts manufacturing field.

6. **Emergency Accident Handling During Auto Parts Manufacturing:**

- Handling emergency accident situations is an important aspect of the auto parts manufacturing process. Employees need to be trained to confidently and quickly respond to any incident that may occur. This includes knowing how to use safety and protection equipment to protect themselves and colleagues.
- In the event of an accident, stopping work immediately and reporting the incident is important. Employees also need to know how to use emergency rescue equipment and protect the accident site to minimize infection risk and enhance safety.
- Effective communication is key to handling emergency situations. Employees need to know how to communicate with colleagues, managers, and rescue teams. Organizing and timely implementing post-accident handling steps help minimize injuries and negative consequences.

- In a complex manufacturing environment, training emergency handling skills is an important step to ensure safety and stability during the auto parts manufacturing process.

III. Occupational Safety and Hygiene for Auto Body Casting and Welding Staff

1. Characteristics of Auto Body Casting and Welding Work:

- The auto body casting and welding process requires special attention to many important job characteristics. First, technicians must focus on selecting suitable materials, ensuring high mechanical properties and durability. This process requires careful temperature control to ensure strong bonding between different parts of the car body. Additionally, uniformity in distributing casting compounds is crucial to avoid cracks and uneven structures.
- Furthermore, casting and welding demand precision in shaping and sizing the car body. Technicians must adhere to technical regulations and safety standards to ensure every detail meets structural and safety requirements.
- Finally, the casting and welding process requires strict control at every step, from material preparation to heating and cooling processes. This ensures that each car body produced meets high and consistent quality standards while minimizing production errors. In summary, the job characteristics of casting and welding in car body manufacturing play an important role in ensuring car safety and performance.



2. Types of Accidents During Auto Body Casting and Welding:

- During the auto body casting and welding process, many types of accidents need to be anticipated to ensure safety and product quality. One common issue is

cracking or malfunction during material heating. This can occur when temperature is not strictly controlled, leading to non-uniformity in the casting process and weakening the car body structure.

- Other frequently encountered accidents include using incorrect or substandard materials. If the material does not meet mechanical requirements, it can result in poor ductility, leading to cracks and reduced load-bearing capacity of the car body.
- Even uneven cooling processes can cause serious issues in the car body. Without strict temperature control during cooling, uneven structures can emerge, increasing the risk of cracks and reducing product durability.
- In summary, to avoid accidents during the auto body casting and welding process, the production process must be strictly controlled from material inspection to monitoring temperature and pressure throughout the production process.

3. **Causes of Accidents During Auto Body Casting and Welding:**

- There are many causes of accidents during the auto body casting and welding process, and understanding them is crucial to implementing preventive measures. One of the main causes is the lack of temperature control. If the heating and cooling processes are not closely regulated, it can lead to non-uniformity in metal structures, resulting in weakness and cracking.
- Using substandard materials is another cause. If the materials do not meet durability and mechanical property requirements, the car body's load-bearing capacity is reduced, increasing accident risks.
- Problems in quality control processes can also lead to accidents. Without a strict inspection system at every step from material selection to casting and welding processes, small errors can be overlooked but cause significant consequences.

4. **Measures to Prevent Accidents During Auto Body Casting and Welding:**

- To ensure safety and quality during the auto body casting and welding process, implementing preventive measures is crucial. First, temperature control is key. Ensuring uniformity in heating and cooling processes helps prevent non-uniformity in metal structures, reducing the risk of cracking.
- Material selection is another important step. Ensuring that materials meet all durability and mechanical property requirements enhances the car body's load-bearing capacity and reduces production errors.
- Implementing quality control at every step in the production process is an effective way to prevent accidents. A strict inspection system from material selection to casting and welding processes ensures that all issues can be detected and resolved promptly.

5. **Labor Safety Regulations During Auto Body Casting and Welding:**

- Labor safety regulations during the auto body casting and welding process are crucial to ensuring a safe working environment for employees. Employees are often required to use personal protective equipment such as helmets, protective glasses, and heat-resistant clothing to minimize risks from high temperatures.
- Work procedures also set clear safety measures such as temperature and pressure control while ensuring good ventilation to limit smoke and dust from the casting process. Regular labor safety training is conducted to ensure employees understand safety rules and emergency measures when necessary.

- Additionally, regulations on material and production process control ensure that all products meet quality and safety standards. In this way, labor safety regulations not only protect employees but also ensure that casting and welding products meet the highest standards.
- 6. Emergency Accident Handling During Auto Body Casting and Welding:**
- In the event of an emergency accident during the auto body casting and welding process, quick and effective response is crucial. Employees need to be trained in emergency response skills and using safety equipment. Immediately activating the alarm system and notifying others in the area about the emergency situation is important for quick evacuation.
 - In case of fire or explosion, using firefighting equipment and automatic fire suppression systems should be implemented immediately to control the situation. Employees should also be guided on safe evacuation routes and assembly points.
 - Ensuring technician readiness is another important factor. In an emergency situation, checking personal safety such as wearing the correct protective equipment is extremely important to minimize injury risks. All participants should be guided to remain calm and follow the emergency handling steps as trained.

IV. Occupational Safety and Hygiene for Car Body Painting Staff

- 1. Characteristics of Car Body Painting Work:**
- Car body painting is a job requiring professionalism and high technical skills to ensure not only an attractive appearance but also the durability of the paint layer. This job includes many important characteristics.
 - First, surface preparation is the most crucial step. This includes removing any cracks, fractures, or old paint on the car body. Using mechanical and chemical means to clean the surface creates a perfect foundation for painting.
 - Next is the selection and use of appropriate paint. Paint not only makes the car aesthetically pleasing but also protects the car body from weather impacts and other factors. Anti-rust and UV-resistant coatings are also important in the painting process.
 - The working environment also plays a significant role, ensuring a clean and comfortable workplace to enhance work quality. Additionally, painting technicians need skills in using tools such as paint spray guns to achieve the desired coverage and gloss.



2. Types of Accidents During Car Body Painting:

- During the car body painting process, various accident types can occur, affecting both the quality of work and the safety of the workers. One common risk is surface issues, including cracks, paint runs, or bumps due to uneven painting processes.
- Chemical accidents are a major risk. The use of paint and solvents requires caution to avoid the risk of fire and explosion and health impacts on workers. Additionally, handling and storing chemicals must strictly follow safety rules.
- Another issue is accidents related to the paint spray gun. Problems with the spray gun such as clogging or especially uncontrolled paint pressure can lead to excessive or uneven spraying, affecting the quality of the paint layer.
- Finally, occupational accidents such as collisions, slips, or injury risks from work tools also need attention. This requires strict adherence to labor safety rules and full use of personal protective equipment in hazardous work environments like car body painting.

3. Causes of Accidents During Car Body Painting:

- Many causes lead to accidents during car body painting, posing significant challenges for safety and work quality. One important cause is the lack of experience among workers. Those not fully trained in painting techniques may struggle to control the spray gun and apply an even paint layer.
- Another cause is the lack of understanding of products and painting processes. Using inappropriate paint or not following specific painting procedures can lead to issues with color durability and surface quality.
- Poor safety management is another important factor. Failing to maintain a safe working environment, controlling air quality, and not fully implementing personal protective measures can increase accident risks.

- Using unsafe or outdated equipment can also lead to incidents if not properly maintained. Issues like malfunction, clogging, or losing control of paint pressure can occur when equipment is not maintained correctly.
4. **Measures to Prevent Accidents During Car Body Painting:**
- To reduce accident risks during car body painting, implementing preventive measures is extremely important. One of the most important measures is environmental monitoring. This helps assess and control air quality, especially dust and chemicals in the working environment.
 - Training employees on safety is another measure to prevent accidents. This includes guidance on using personal protective equipment, safe painting procedures, and controlling paint pressure.
 - Chemical management is also a key factor in preventing accidents. Proper storage, handling, and disposal of chemical waste reduce the risk of fire and explosion and negative health impacts. Using environmentally friendly chemicals is also a positive measure to reduce environmental impact.
 - Regular maintenance and inspection of equipment are crucial to ensure they operate correctly. Replacing and maintaining paint spray guns, monitoring systems, and other equipment helps reduce the risk of incidents during painting.
5. **Labor Safety Regulations During Car Body Painting:**
- Labor safety regulations during car body painting play an important role in protecting health and ensuring a safe working environment. Employees performing painting tasks need to be trained on the correct use of personal protective equipment, including masks, gloves, and protective clothing.
 - Regulations also require maintaining a safe working environment. This includes controlling air quality in the workshop, using environmental monitoring systems to track and assess pollution levels, and implementing restrictive and control measures when necessary.
 - Chemical management is a key part of safety regulations. This includes safely storing paint and solvents, ensuring hazardous materials are handled correctly, and implementing waste disposal procedures according to environmental standards.
6. **Emergency Accident Handling During Car Body Painting:**
- Handling emergency accident situations during car body painting requires agility and thorough preparation from both employees and managers. In case of fire or explosion, workers need to immediately use firefighting equipment and activate the fire alarm system to alert and request help.
 - In emergency situations, using the correct type of mask and personal protection is a top priority. Employees need to promptly leave the hazardous area and gather at a designated safe assembly point.
 - Management needs to maintain continuous communication with the workgroup and rescue teams. Timely notification and guidance on handling emergency situations will help minimize damage and ensure safety for all involved.
 - Regular training on accident prevention and emergency response is important. Being prepared and knowledgeable about the measures to take when accidents occur will help the workgroup confidently and effectively respond to any unexpected situations during car body painting.

V. Occupational Safety and Hygiene for Auto Assembly Machine Operators

1. Characteristics of Auto Assembly Machine Operation Work:

- During auto assembly machine operation, characteristic tasks require in-depth expertise and professional skills. Auto assembly machine operators often have to perform many complex tasks, including inspecting, maintaining, and adjusting basic machine components.
- One important characteristic of this job is a deep understanding of how machines operate. Operators need to be able to read and understand technical drawings to ensure machines are configured correctly and operate efficiently. They also need to be able to analyze and quickly resolve issues to ensure continuous production.
- The job requires special attention to detail. Operators often need to check each production step to ensure that all parts and components are installed correctly. This requires high skills in time management and careful work in daily tasks.



2. Types of Accidents During Auto Assembly Machine Operation:

- During auto assembly machine operation, various types of accidents can occur due to different causes. One main cause is the lack of safety management. Machine operators need to be trained on safety measures from machine use to adhering to safety rules during work.
- Additionally, accidents can occur due to technical errors or machine failures. Regular maintenance and inspection of machines are important to avoid unexpected breakdowns, contributing to minimizing accident risks.
- Another aspect to consider is employee attention and fatigue. Reduced concentration can lead to errors during operation, increasing accident risks.

Therefore, personnel management needs to ensure employees have proper rest and a positive work environment.

3. Causes of Accidents During Auto Assembly Machine Operation:

- There are many causes of accidents during auto assembly machine operation. One important cause is insufficient training and safety understanding among employees. If they are not fully trained on machine use and safety measures, accident risks increase significantly.
- Technical errors also play a significant role. If machines are not regularly maintained or have technical faults, unexpected breakdowns can occur, leading to accidents. Therefore, regular maintenance and inspection of machines are crucial to ensuring safety during operation.
- Lack of concentration and attention is also a common cause. Employees working in an environment requiring attention to detail and high concentration. Fatigue, lack of sleep, or inattention can lead to errors and unwanted accidents.

4. Measures to Prevent Accidents During Auto Assembly Machine Operation:

- To prevent accidents when operating auto assembly robots, implementing safety measures is undeniable. First, establishing and maintaining specific safety rules for robot use, including identifying safe zones and safe interaction with employees.
- Planning safety measures and training employees on working with robots are also important factors. Employees need to be trained to understand how robots operate, how to respond to emergency situations, and comply with established safety rules.
- Using sensors and monitoring systems is an important measure to prevent accidents. Sensors can help robots detect danger zones, prevent collisions with other objects, and provide data for safety control.
- Finally, quality management and proper maintenance of robots also play a crucial role. Regular inspection and maintenance help ensure that robots operate stably and safely.

5. Labor Safety Regulations During Auto Assembly Machine Operation:

- Labor safety regulations when operating auto assembly machines are an important part of protecting employee health and safety. Employees regularly exposed to complex machinery and equipment require the establishment of strict safety rules.
- First, identifying and clearly displaying dangerous zones in the work area is necessary. Safety signs and warnings should be used to alert employees to specific risks and preventive measures.
- Employees need to be fully trained on how to use auto assembly machines and safety measures. They need to understand safe working procedures, use protective equipment correctly, and know how to handle emergency situations.
- Monitoring systems and quality control also play a crucial role. Continuously monitoring machine operation and conducting regular inspections help ensure that all processes run correctly, minimizing accident risks.

6. Emergency Accident Handling During Auto Assembly Machine Operation:

- Handling emergency accident situations during auto assembly machine operation requires agility and thorough preparation from employees. In case of an accident, the priority is to protect employees' lives and health.

- When an accident occurs, employees need to stop the machine and report the situation immediately. They should also activate the alarm system to alert others in the area about the emergency situation.
- Employees should not perform complex operations without training. Instead, they should perform basic first aid measures like first aid and call for emergency services immediately.
- Reporting the accident and recording details about the incident are also important for analyzing causes and proposing preventive measures for the future.

VI. Occupational Safety and Hygiene for Finished Car Quality Inspection Staff

1. Characteristics of Finished Car Quality Inspection Work:

- In the automotive manufacturing field, inspecting the quality of finished products is a crucial part of the production process. This ensures that each car meets the highest standards before reaching customers. Finished car quality inspection work includes many important characteristics.
- One of the most important factors is technical inspection, where engineers and quality experts ensure that all car components function correctly. This includes inspecting the engine, suspension system, air conditioning system, and other car components.
- Safety inspection is also an important part, with special attention to the braking system, airbags, and the overall structure of the car. This work ensures that each car meets international and local safety standards.
- Additionally, inspecting the exterior and interior is an important step to ensure each car is not only visually appealing but also comfortable and convenient for users. Inspecting paint, surface finish, and interior features plays a crucial role in creating a quality product.





2. Types of Accidents During Finished Car Quality Inspection:

- During finished car quality inspection, although the process is designed to ensure safety and accuracy, unexpected accident types can still occur. Several factors can lead to these incidents.
- First, design or manufacturing errors can lead to unexpected safety issues. If not detected and resolved in time, these errors can cause serious accidents during inspection. This poses a major challenge for car manufacturers, requiring them to continuously improve production and quality inspection processes.
- Second, human factors also play an important role in preventing accidents. Lack of training for quality inspection staff can lead to reading and assessment errors, affecting the safety and final quality of the car.
- Finally, the working environment can also impact the inspection process. Without safe working conditions such as sufficient lighting or adequate space, the risk of accidents increases.

3. Causes of Accidents During Finished Car Quality Inspection:

- Accidents during finished car quality inspection can occur due to various causes. One of the most important causes is deficiencies in the design and manufacturing process. If hidden errors in previous steps of the production process are not detected in time, they can lead to safety issues and accidents during inspection.
- Another cause relates to human factors, including deficiencies in training quality inspection staff. If staff do not fully understand inspection standards or do not follow procedures correctly, misunderstandings and inaccurate inspection results can occur.
- The working environment also plays a role. Without safe and comfortable working conditions, such as working in noisy environments or insufficient lighting, employees' concentration can be reduced, leading to inspection errors.

- Additionally, time pressure is a potential cause. The demand to inspect a large number of cars in a short time can lead to rushed work, increasing the likelihood of overlooking important issues during the quality inspection process.
4. **Measures to Prevent Accidents During Finished Car Quality Inspection:**
- To prevent accidents during finished car quality inspection, several important preventive measures are required. First, focusing on quality production processes from the beginning ensures that all car components are manufactured to the highest standards. This helps reduce the risk of errors and safety issues.
 - Additionally, training quality inspection staff is crucial to ensure they fully understand inspection procedures and know how to handle difficult situations. Deep knowledge of safety and quality standards helps minimize errors and accidents.
 - Optimizing the working environment is also necessary. Ensuring employees have sufficient lighting and workspace reduces the risk of mistakes and helps increase concentration during inspection.
 - Furthermore, time management is important to reduce pressure and improve inspection quality. Planning to avoid excessive pressure helps employees work more carefully and accurately.
5. **Labor Safety Regulations During Finished Car Quality Inspection:**
- Labor safety regulations during finished car quality inspection are an important part of the working environment in the automotive manufacturing industry. To protect employees and ensure the inspection process runs safely, specific safety standards are often established.
 - First, employees are often trained on labor safety to understand potential hazards and preventive measures. This includes correctly using personal protective equipment such as protective glasses, helmets, and gloves to protect against injury and chemical hazards.
 - Additionally, regulations often require regular inspection and maintenance of quality inspection equipment to ensure they operate correctly and safely. Work areas should be designed to minimize collision risks, and automation should be used where possible to reduce direct employee contact with hazardous processes.
6. **Emergency Accident Handling During Finished Car Quality Inspection:**
- Handling emergency accident situations during finished car quality inspection requires thorough preparation and quick response from employees. In the event of an accident, the first step is to ensure the safety of all employees by using protective equipment and approaching the accident area safely.
 - Employees need to immediately report to management and rescue teams if available. This helps prompt and professional response from rescue teams and provides accurate information about the situation.
 - During accident handling, keeping everyone in the area safe and avoiding contact with any hazardous items is crucial. Employees need to be trained to use rescue equipment and know how to perform basic emergency measures.

VII. Occupational Safety and Hygiene for Car Packing and Transport to Dealership Staff

1. Characteristics of Car Packing and Transport to Dealership Work:

- In the process of packing and transporting cars to dealerships, many important characteristics need to be considered to ensure the safety and quality of the product. This job requires professionalism and meticulousness from packing and logistics teams.
- First, the packing process must comply with safety and protection standards to ensure that cars are not damaged during transport. Using shockproof and protective materials such as foam and anti-scratch film helps minimize collision and scratch risks.
- Additionally, the packing process needs to be optimized to increase efficiency and reduce preparation time. Meticulous arrangement of space and placement of small car details in containers or transport vehicles is important to maximize space and reduce transport costs.



2. Types of Accidents During Car Packing and Transport to Dealership:

- During the process of packing and transporting cars to dealerships, various types of accidents can occur, significantly impacting the product. Collisions causing damage to protection and lack of safety during transport can lead to serious consequences.
- Collisions during transport can cause scratches or structural damage to the car. Loose packing and fixation can increase the risk of this type of accident. Additionally, lack of adequate protection such as anti-scratch layers and foam can increase the rate of damage due to collisions.
- Lack of safety during transport can lead to cars overturning or tipping. This not only causes technical damage but also poses a threat to traffic participants' safety. This incident is often related to lack of balance or packing errors.

3. **Causes of Accidents During Car Packing and Transport to Dealership:**
 - Causes of accidents during car packing and transport can stem from various factors. Deficiencies in the packing process, improper packing techniques, and incorrect weight and balance assessments of the car can lead to unwanted consequences.
 - One important cause is the lack of technical preparation for the packing process. Deficiencies in selecting protective materials and arranging them can lead to the car not being properly protected, increasing the risk of damage during transport.
 - Not ensuring the correct weight and balance of the car during packing is also a potential cause. If the car is not placed and secured tightly, uncontrolled movement during transport can occur, leading to accidents.
 - Finally, incorrect technical and safety assessments of the car before packing is another important cause. Overlooking technical issues can lead to instability during transport, causing unwanted accidents.
4. **Measures to Prevent Accidents During Car Packing and Transport to Dealership:**
 - To minimize accident risks during car packing and transport to dealerships, implementing preventive measures is crucial. First, establishing a strict packing process that adheres to safety standards and using shockproof materials to protect the car from collisions and scratches.
 - Ensuring the correct balance and secure fixation of the car is important. Using professional and sturdy fixing methods ensures that the car does not move or experience uncontrolled movement during transport.
 - Conducting technical and safety inspections before packing is an important step. This includes checking the braking system, balance, and other technical factors to ensure the car is in good operational condition and safe during transport.
5. **Labor Safety Regulations During Car Packing and Transport to Dealership:**
 - To ensure labor safety during car packing and transport to dealerships, adhering to labor safety regulations is essential. Employees involved in this process need to be trained on safety measures, using personal protective equipment correctly and fully.
 - Safety regulations also require strict adherence to using mechanical equipment and controlling the car during packing. Lifting, fixing, and transporting rules must be implemented safely to avoid accidents and labor injuries.
 - Employees need to be instructed on safely handling materials and chemicals during car packing. This includes how to store and use protective materials, packing materials, and interacting chemicals that may be encountered during work.
6. **Emergency Accident Handling During Car Packing and Transport to Dealership:**
 - In the event of an emergency accident during car packing and transport to dealerships, proper and timely handling is crucial to minimize damage and ensure safety. Employees need to be trained on emergency handling skills and adhering to safety procedures.
 - In the event of an accident, immediate reporting and communication with management and relevant authorities is the top priority. Accurate and prompt information helps make correct decisions on rescue and minimize consequences.

- Personal safety is the most important. Employees need to know how to use protective equipment and perform safety measures to protect themselves when participating in emergency activities such as rescue or moving the car.
- Accurate first aid procedures also need to be applied. Employees should be trained to provide immediate care to the injured and protect the accident area until official support arrives.

