

CONSTRUCTION SAFETY IN MEXICO

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OBJECTIVE

To outline a general panoramic of the Industry of the Construction at the present time in Mexico, from the focus of the safety and hygiene. The Industry of the Construction in Mexico until before December of 2005, it was considered the explosive of the productive activity, in function that when it improved the economy it was because it improved the volume of works and their effect multiplier for it spills it at 37 of the 78 industrial sectors of the economy and vice versa, when fell, it was sign that the economy would have a decrease with the rising haulage of the associate sectors.

OBJECTIVE

Mexico is a country of 106.5 million habitants, of those that concentrates on cities and metropolitan areas near the population's 52%, and approximately 44% has an age inside the "economically active" considered range.

In the last decades different situations like the economic globalization have been presented and of production, the signature of trade treaties between Mexico and diverse nations, as well as the geographical situation of the country, that have promoted the emergence and growth of the national and foreign companies, mainly in the north area of the country and metropolitan areas, creating with it an important quantity of work positions in diverse productive sectors, of transformation and benefit of services.

THE INDUSTRY OF THE CONSTRUCTION IN MEXICO

The employment is one of the main promoters of the health of populations and the communities where productive industries plows located. Occupational risks plows ace diverse ace economic activities, especially where regulatory and safety measures to protect workers from health hazards it plows not strictly implemented.

Occupational risks plows not easily identified due to unrecognized exposures by the worker, or the physician, or to the identification of to health risk ace an answer to factors outside the occupational setting.

Health consequences of occupational hazards go beyond the immediate health impact because many marries end in permanent discapacities, severe reviles, and even the death of the workers.

THE INDUSTRY OF THE CONSTRUCTION IN MEXICO

Accidents illustrate the insecure conditions that prevail in certain working environments that threaten the health of the productive population. Occupational diseases on the other hand illustrate the chronic effect of dangerous exposures.

The dates presented highlight the importance of these health problems in the last decade during which a total of 5 million health problems related to the working conditions were registered by the Mexican Institute Social of Safety (IMSS).

This means half a million per year, 43 000 to month, and 3600 health events every day. Occupational safety and protective measures are a priority but the identification of health hazards in the working environment is necessary to improve the preventive and control measures.

THE SAFETY AND HYGIENE IN THE INDUSTRY OF THE CONSTRUCTION DE MEXICO

The bond with the health and the safety .

It is difficult to demonstrate by means of statistical the bond among, for one side, the recent changes in the work relationships and the industrial structure and, for other, the deterioration of the conditions of safety and health in the work in the industry of the construction. It is known that the data on accidents are not reliable and that discrepancies exist among the reports that are even presented in the breast of the Mexican institutions. In Mexico reliable data don't exist due to the covering lack of sure, what means that often the accidents are not notified.

Even when data exist, the statistical analysis gets complicated more because the rate of accidents varies according to the recurrent fluctuations of the yield of the construction, that it increases with the economic recovery and it worsens in the periods of recession. With the result that it is difficult to determine which the registered tendencies are during long periods.

THE SAFETY AND HYGIENE IN THE INDUSTRY OF THE CONSTRUCTION DE MEXICO

Nevertheless, some studies provide some data that indicate the existence of a bond. For example, in Mexico the rate of accidents of the construction has gone constantly increasing, of 97 for 1.000 workers in 1992 at 142 in 1999 (International Organization of the Work OIT, 1998, 2000).

The constant increase of the number of accidents is explained by the changes in the structure of the industry and under the employment conditions and of work. The subcontract (that at the moment is based almost in the entire world by the piece in the work) it intensifies the pressure to take place and at the same time makes more difficult to coordinate the work and to guarantee the safety in the work.

It is calculated that 95 percent of the serious accidents affects workers used by subcontractors.

THE SAFETY AND HYGIENE IN THE INDUSTRY OF THE CONSTRUCTION DE MEXICO

Most of these workers have temporary contracts, that which, in the context of a fluctuating demand, it incites them to work many hours with the purpose of taking out him the biggest party possible to the work while it lasts.

They also have less possibilities than the workers with permanent contracts of acquiring the formation and the necessary experience to work without risks in an environment of dangerous work, and they are in a weaker position when refusing to work under conditions of risk.

For these and other reasons, a worker of the construction with a contract of certain duration has three times more possibilities to suffer a labor accident that one with a permanent contract (Mexican Institute Social of Safety IMSS).

LEGISLATION OF THE SAFETY AND HYGIENE IN MEXICO

- **POLITICAL CONSTITUTION OF THE STATES UNITED MEXICANS,** IN THEIR ART. 123 ESTABLISH THE BASED LABOR RIGHTS AND SITS DOWN THE BASES OF THE SAFETY AND HYGIENE IN THE WORK.
- **FEDERAL LAW OF THE WORK,** REAFFIRMS THE PATTERN'S RESPONSIBILITY OF PROVIDING TO THE WORKERS, A SURE LABOR ATMOSPHERE AND I HEAL.
- **REGULATE FEDERAL OF SAFETY, HYGIENE AND ENVIROMENT OF WORK,** THE NORMATIVIDAD SETTLES DOWN IN THE MATTER, CHORD WITH THE DEVELOPMENT AND THE NECESSITIES OF THE COUNTRY.
- **MEXICAN OFFICIAL NORMS** APPROXIMATELY 38 EFFECTIVE NORMS.

IDENTIFICATION OF DANGERS, EVALUATION AND CONTROL OF RISKS

The risks for the safety to those that the workers of the construction face are derived of the own nature of the work, that supposes they work to big heights (fallen of roofs, scaffolds, stairways, etc.), excavation works (landslides of gutters and machinery of earth movement), the use of to hoist machinery (cranes and capstans), the team use and electric tools and of diverse vehicles that the works demand.

IDENTIFICATION OF DANGERS, EVALUATION AND CONTROL OF RISKS

If the work is a disordered place and packed of things, it is more probable than they happen accidents. The workers of the construction are also exposed to a great number of risks for the health, included the exhibition to dangerous substances (as silica powder and of asbestos and dangerous chemical products), the manipulation of heavy loads and the exhibition to high levels of noise and vibrations (so much of small machinery of hand as of heavy machinery). The back pain and other muscular lesions for the rising of heavy loads frequently cause absences to the work in this sector.

IDENTIFICATION OF DANGERS, EVALUATION AND CONTROL OF RISKS

- The back pain and the dysfunctions skeletal muscle are frequent in the construction. It is believed that in some countries 30% of the work force suffers them.
- The exhibition to the asbestos is a specific risk of the construction. Although their use has been prohibited in many countries, the problem persists. The workers of the construction can be exposed to particles of this material during the demolition works, renovation or maintenance.
- The silicosis and the neumoconiosis for mixed dust also have a very high incidence among the workers of the construction and it is necessary to approach their prevention specifically.

AGENTS OF RISK IN THE INDUSTRY OF THE CONSTRUCTION

- RECIPIENTS SUBJECT TO PRESSURE AND BOILERS.
- PROTECTION AND DEVICES OF SAFETY IN THE MACHINERY, TEAMS, ACCESSORIES.
- WORKS OF IT CUTS AND WELDING
- SYSTEM AGAINST FIRE.
- TEAM OF PERSONAL PROTECTION.
- ELECTRIC FACILITIES AND STATIC ELECTRICITY.
- POINT OUT, WARNINGS OF SAFETY AND CODE OF COLORS.
- MANAGE, TRANSPORT AND STORAGE OF MATERIALS.
- PLANTS PHYSICS.
- ORDER, CLEANING AND SERVICES.
- CONDITION GENERAL.

- CONDITION OF THE ENVIRONMENT OF WORK.
- LEVEL OF EXHIBITION TO NOISE
- EXHIBITION TO CHEMICAL SUBSTANCES
- EXHIBITION TO RADIATIONS IONIZANTES
- EXHIBITION TO HIGH OR DEPRESSED TEMPERATURES
- EXHIBITION TO MECHANICAL VIBRATIONS
- CONDITIONS OF ILLUMINATION

The accident to prevail and the occupational illnesses maintain preponderance in the industry of the construction in Mexico; the identified factors of risk are potentially amendable where the labor training acquires unquestionable relevance.

STATISTICAL

The construction spreads to be one of the most important sectors in the national economies, particularly in those that grow quickly. The requirements of the construction programs, renovation, maintenance and demolition in all the countries spread to grow.

Nevertheless, the industry continues being based on important measure in the manpower use, and the risks of safety and of health that the workers run they are among those bigger than any other sector of the employment.

In the 2004 they register 27,718 work risks in the industry of the construction. Of them, 27,489 are accidents and 229 are illnesses that take place in the work centers.

Statistic of Accidents and Illnesses of Work of the Mexican Institute Social of Safety (IMSS 2000)

HAVE AN ACCIDENT AND ILLNESSES OF WORK, ACCORDING TO DIVISION OF ACTIVITY ECONOMICA(1).

DIVISION OF ACTIVITY ECONOMIC	ACCIDENTS OF WORK	ILLNESSES WORK
TOTAL NATIONAL	356,725	5,557
Agriculture, Cattle raising, Forestry, Fishes and it Hunts	10,266	21
Extractive industries	3,893	719
Industry of the Transformation	129,568	3,125
Industry of the Construction	41,715	222
Electric industry and Reception and Supply of Drinkable Water	3,655	125
Trade	64,181	282
Transport and Communications	22,286	338
Services for Companies, People and the Home	43,589	376
Social and Communal services	23,040	90
Not identified	4,532	259

(1) I regulate for the Classification of Companies and Determination of the Cousin of the Insurance of Risks of Work 1998.
Source: Coordination of Health in the Work. SUI55/ST-5.

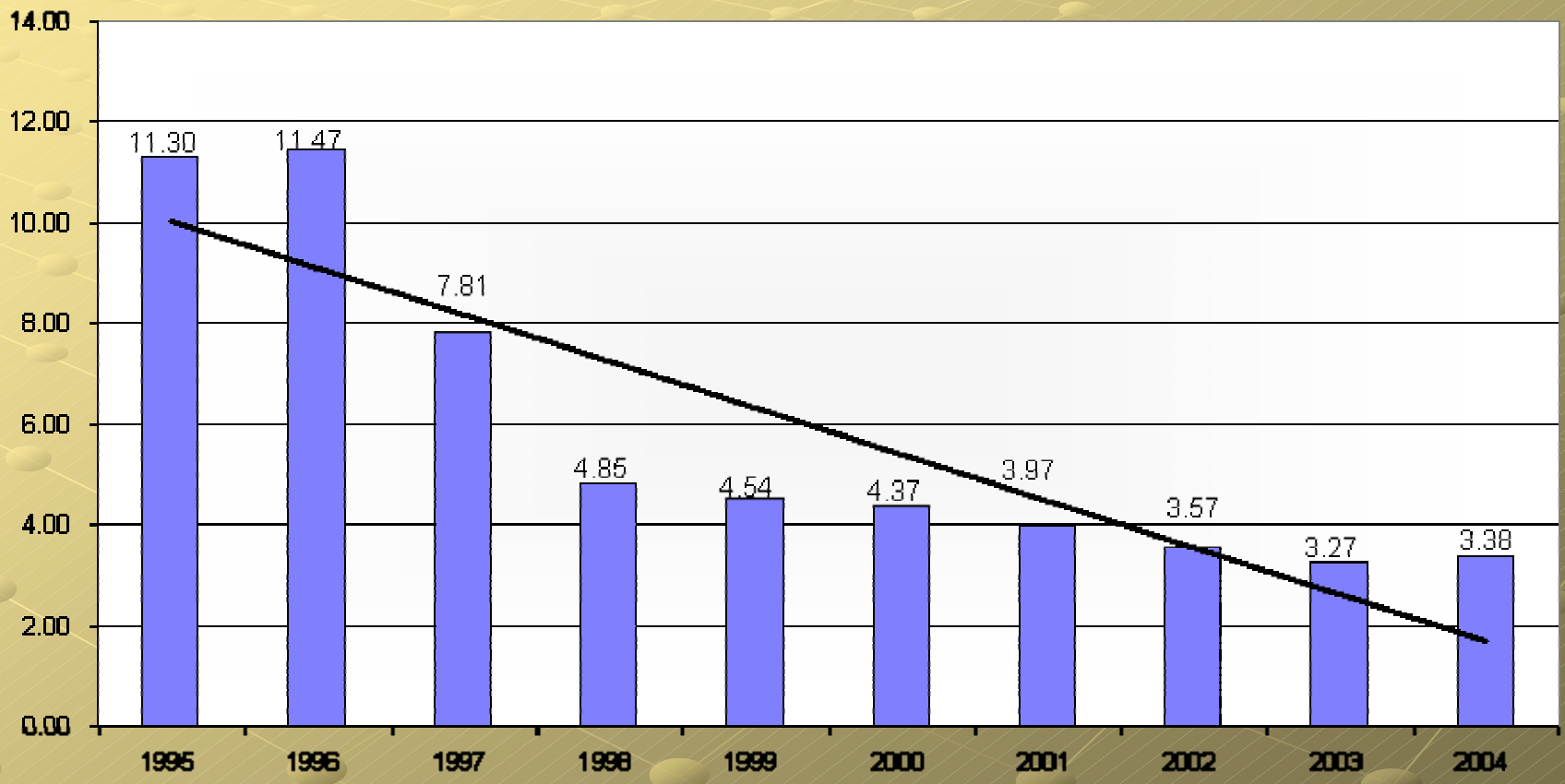
Subsecretary of the Work, Safety and Social Forecast: General address of Safety and Health in the Work.

Economic activities of high risk 2004.

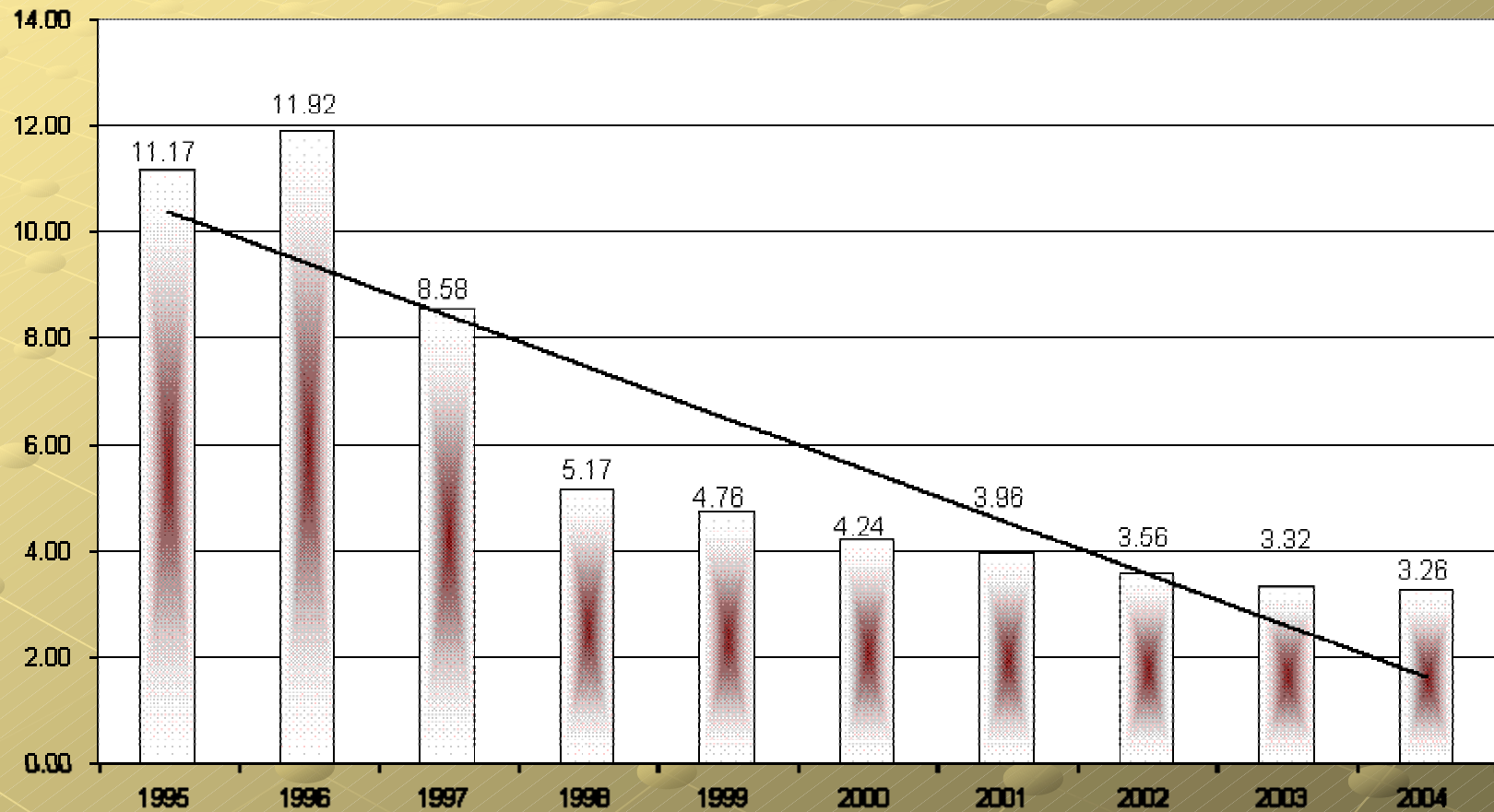
The statistical information of accidents and work illnesses, relative to the economic activities that for their high index of superior frequency to the national rate, they are considered of high risk.

The economic activities of high risk in 2004 added a total of 121, of these a ten year-old historical series is presented that shows the behavior of these, of the years 1995-2004, takes like base the National rate of Incidence of Accidents and Illnesses of Work, corresponding to the year 1995 that it was of 4.21 and the 2004 of 2.18 what allows to compare its evolution in this period. They are listed in falling order of bigger to smaller rate of frequency.

CONTRUCCIONES OF WORKS OF INFRASTRUCTURE AND CONSTRUCTION IN WORK PUBLISH



CONSTRUCCIÓN OF CONSTRUCTIONS, EXCEPT WORK PUBLISHES



Subsecretary of the Work, Safety and Social Forecast: General address of Safety and Health in the Work.

National statistic of Accidents and Illnesses of Work 2005

HAVE AN ACCIDENT AND ILLNESSES OF WORK, ACCORDING TO DIVISION OF ECONOMIC ACTIVITY ⁽¹⁾

DIVISION OF ACTIVITY ECONOMIC	ACCIDENT OF WORK	ILLNESSES OF WORK
TOTAL NATIONAL	295,594	7,292
Industry of the Transformation	89,070	4,039
Trade	63,252	257
Services for Companies, People and the Home	52,041	365
Industry of the Construction	32,254	389
Social and Communal services	20,234	121
Transport and Communications	19,206	650
Agriculture, Cattle raising, Forestry, Fishes and it Hunts	7,320	215
Electric industry and Reception and Supply of Drinkable Water	3,813	229
Extractive industries	2,964	936
Not identified	5,440	91

(1) Regulate of the Law of the Public Health as regards Affiliation, Classification of Companies, Collection and Inspection, 2002.
Source: Coordination of Health in the Work. IMSS, Format SUI55/ST-5.

**Subsecretary of the Work, Safety and Social Forecast: General address of
Safety and Health in the Work.**

National statistic of Accidents and Illnesses of Work 2005

GROUPS OF ACTIVITIES ECONOMICAS⁽¹⁾ WITH BIGGER I NUMBER OF ACCIDENTS OF WORK.

ECONOMIC ACTIVITY	FRACTION	ACCIDENT OF WORK	PERMANENT INABILITIES	DEATHS
TOTAL NATIONAL		295,594	11,578	1,109
Construction of constructions and of works of civil engineering.	4100	27,670	1,313	192
Professional services and technicians.	8401	19,242	503	85
Sale and purchase in self-service stores and of specialized departments, for it lines of merchandise.	6400	16,666	277	7
Sale and purchase of foods, drinks and products of the tobacco.	6100	15,685	346	52
Elaboration of foods.	2000	15,174	792	47
Services of public administration and social safety.	9400	14,087	310	39
Preparation and service of foods and drinks.	8700	13,658	244	22
Production of metallic products; except machinery and team.	3500	12,324	864	36
Transport terrestrial.	7100	10,492	631	155
Sale and purchase of matters cousins, materials and auxiliary.	6600	10,295	365	24
Personal services for the home and diverse.	8900	9,098	222	14
Production of rubber products and plastic.	3200	7,322	405	6
Production and/or assemble of machinery, teams, apparatuses, accessories and electric, electronic articles and their parts.	3700	6,736	280	5
Construction, reconstruction and assemble of the team of transport and their parts.	3800	6,233	294	8
Making of garments of dressing and other articles with the help of textile and diverse materials, except footwear.	2400	5,875	142	11
Other groups of economic activities.		105,037	4,490	406

(1) Regulate of the Law of the Public Health as regards Affiliation, Classification of Companies, Collection and Inspection, 2002.
Source: Coordination of Health in the Work. IMSS, Format SUI55/ST-5.

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National statistic of Accidents and Illnesses of Work 2005**

ACTIVITIES ECONOMICAS⁽¹⁾ WITH ADULT I NUMBER OF CASES OF HAVE AN ACCIDENT AND ILLNESSES OF WORK 2001 - 2005.

ECONOMIC ACTIVITY	2001		2002		2003		2004		2005	
	CASES	%	CASES	%	CASES	%	CASES	%	CASES	%
TOTAL	329,670	100.0	307,481	100.0	286,336	100.0	289,887	100.0	302,886	100.0
Constructions of infrastructure works and constructions in public work.	19,509	5.9	17,442	5.7	17,230	6.0	18,910	6.5	19,286	6.4
Supermarkets, self-service stores and of departments specialized by line of goods.	14,474	4.4	14,406	4.7	14,459	5.0	15,908	5.5	16,675	5.5
Professional services and technicians.	12,488	3.8	13,448	4.4	12,855	4.5	14,858	5.1	15,284	5.0
Preparation and service of foods.	11,775	3.6	12,930	4.2	12,718	4.4	13,154	4.5	13,488	4.5
Sale and purchase of foods, drinks and products of the tobacco, with transport.	11,395	3.5	11,371	3.7	11,191	3.9	11,540	4.0	12,398	4.1
Construction of constructions; except public work.	13,639	4.1	10,611	3.5	9,419	3.3	8,808	3.0	8,745	2.9
Social safety.	12,123	3.7	10,903	3.5	9,118	3.2	8,740	3.0	8,295	2.7
Production of products of plastic.	7,429	2.3	6,925	2.3	6,446	2.3	5,974	2.1	6,285	2.1
Services of temporary lodging.	6,001	1.8	5,637	1.8	5,305	1.9	5,629	1.9	5,881	1.9
Transport of load.	6,277	1.9	6,138	2.0	5,566	1.9	5,783	2.0	5,777	1.9
Sale and purchase of materials for such construction as, wood, steels and hardware store products, with transport and/or preparation of goods.	6,309	1.9	5,888	1.9	5,586	2.0	5,730	2.0	5,616	1.9
Making of garments of dressing.	7,300	2.2	5,755	1.9	4,933	1.7	4,176	1.4	4,869	1.8
Production of other schemed metallic products.	5,751	1.7	5,026	1.6	4,548	1.6	4,386	1.5	4,454	1.5
Production and/or repair of wooden furniture and their parts.	5,126	1.6	4,656	1.5	4,035	1.4	4,103	1.4	4,282	1.4
Elaboration and container of sodas gassy and purified waters.	3,986	1.2	3,956	1.3	3,952	1.4	3,927	1.4	4,233	1.4
Other economic activities.	187,357	56.8	173,883	56.6	158,905	55.5	158,261	54.6	167,318	55.2

(1) Regulate of the Law of the Public Health as regards Affiliation, Classification of Companies, Collection and Inspection, 2002.
Source: Coordination of Health in the Work. IMSS, Format SU155/ST-5.

**Subsecretary of the Work, Safety and Social Forecast: General address of
Safety and Health in the Work.**

National statistic of Accidents and Illnesses of Work 2005

ILLNESSES OF WORK, ACCORDING TO NATURE OF THE LESION.

NATURE OF THE LESION	2001		2002		2003		2004		2005	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
TOTAL	5,520	100.0	4,511	100.0	7,811	100.0	7,418	100.0	7,292	100.0
Dysfunctions of the hearing and traumatic deafness	2,629	47.6	2,027	44.9	3,460	44.3	3,377	45.5	3,147	43.2
Due breathing affections to emanations and vapors of chemical origin	1,147	20.8	1,014	22.5	2,161	27.7	2,205	29.7	2,082	28.6
Due Neumoconiosis to another silica type or silicates	574	10.4	526	11.7	798	10.2	346	4.7	380	5.2
Antracosilicosis	362	6.6	191	4.2	228	2.9	152	2.0	253	3.5
Due Neumoconiosis to another inorganic powder	13	0.2	16	0.4	37	0.5	87	1.2	253	3.5
Chronic bronchitis	123	2.2	160	3.5	276	3.5	227	3.1	208	2.9
Mental dysfunctions and of the behavior	41	0.7	63	1.4	150	1.9	124	1.7	95	1.3
Dorsalgias	18	0.3	20	0.4	38	0.5	46	0.6	67	0.9
Dysfunctions of the capsule sinovial, of the sinovia and of the tendons	44	0.8	45	1.0	35	0.4	45	0.6	52	0.7
Toxic effect of the lead and their compounds (even the emanations)	10	0.2	12	0.3	21	0.3	80	1.1	50	0.7
Contact Dermatitis and another eczema	108	2.0	74	1.6	77	1.0	51	0.7	47	0.6
Several of smaller frequency	451	8.2	365	8.1	523	6.7	678	9.1	658	9.0

Source: Technical division of Statistical Information in Health, ST-5.

TRAINING

YOU PRACTICE AND CUSTOMS OF THE INDUSTRY OF THE CONSTRUCTION IN MEXICO

- THIS ACTIVITY IS CONSIDERED AS ONE OF THOSE BUT DANGEROUS.
- THE NATURE OF THE WORK FORCES TO THAT RISKS ARE RUN THAT ARE CONSIDERED IN THE REST OF THE INDUSTRY UNNECESSARY.
- THE FACILITIES OF WORK ARE TEMPORARY, SUCH AS: CRANE, HANDRAILS AND STAIRWAYS.
- SUBCONTRACTORS

Base for the training it is the design of a methodology transformed into Mexican official norm that has the following status:

Dates dear of beginning and termination: January to December of 2006.

- Project of Norma Official Mexican: Conditions of safety and hygiene in the industry of the construction.

Objective: To elaborate a Mexican official norm that establishes the conditions of safety and health in the work that should be observed in the centers of work of the industry of the construction, governs in the whole national territory and it applies to all the companies dedicated to the industry of the construction.

Justification: Due to the high incidence and graveness of the work risks in this economic activity, it is necessary to establish the requirements of safety and health in the specific work in the development of these activities in an integral norm that applies to this sector.

The work in the construction one can make without having many studies

In Mexico the construction has the capacity of «to absorb those excluded». It provides employment to those that have few studies or qualifications, many of them coming from the poorest layers in the society. The last surveys carried out on the workers of the construction in diverse states of the Mexican republic have revealed that these are mainly young, coming from the lowest communities and with few studies.

The industry of the Mexican construction not even requires that its labor force has a half level of education. In 1999, 14,6 percent of the labor force of the construction was illiterate and 57 percent had studied less than four years of studies (National Institute of Statistical Geography and Computer INEGI).

COSTS OF THE SAFETY AND HYGIENE

To make notice the costs that involve the accidents (accidental and not wanted events that they affect to the personnel or the goods or properties), and to show the impact that have regarding the work cost, utilities, and productivity.

The Industry of the Construction is especially of those that present bigger danger, for two of its particular characteristics: their impermanence and the mobility of this activity, reason for which are had to pay discharges cousins of sure to generate big human losses and materials.

ASSURED COSTS FOR RISKS OF WORK.

The legislation of the work points out the employer obligatorily of paying the workers the wages and compensations, (Art. 132-II, Federal Law of the Work)., and in their Art. 487 LFT points out: " The workers that suffer a work risk will be entitled to":

- I. Medical and surgical attendance;
- II. Rehabilitation;
- III. Hospitalization, when the case requires it;
- IV. Medications and cure material;
- V. The prótesis apparatuses and necessary orthopedics; and
- VI. The compensation fixed Title" presently.