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THE QUALITY OF ROADS INFRASTRUCTURE

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THE QUALITY OF THE NATIONAL ROADS AND HIGHWAYS INFRASTRUCTURE IN ROMANIA

Abstract

The quality of the national road and highways infrastructure in Romania is insured by Law no. 10/1995 settlements regarding the quality in constructions, law which by the applicable norms insure and establish the technical and legal responsibilities.

1. General aspects regarding road infrastructure quality insurance.

The road infrastructure at the national and local administration level provide international transit road transports, international by destination and national and local transports in a direct correlation with demands regarding road safety, time travel reduction and users comfort and enhancement, demands which are done by corresponding quality of the road infrastructure works.

Road infrastructure quality is insured and done in Romania according with Law 10/1995 of quality in construction and specific regulations of the operational domains.

The road infrastructure works quality is carried out by European and national technical regulation at promoting investment projects and is been checked at works execution by quality control compulsory activities, test and checks, by authorized personal also by State Inspectorate in Construction.

To insure works quality in Romania is compulsory for entrepreneurs to have a their own quality management system according with SREN 9001/2002 , to fulfill those insurance conditions of the essential demands of roads works, bridges and highways.

2. Responsibilities and incidence domains for observant of quality in construction law in Romania

Quality in construction law establishes the responsibilities for carrying out of essentials demands thru quality system application in construction of roads, bridges, highways, etc., through organizational structures, procedures and mains for all the stages of designing, execution and usage of the national road network.

The responsibility for insuring the quality of execution of the works I established on levels of participations during of the execution promotion and the national road network operation is identifying at the next levels:

- a) At the investor for establishing the qualitative level which has to be made for insure the check of correct execution project of the works, expertise of the works.

- b) At the designer, to insure by projects and details of execution of the quality levels regarding demands according technical regulations and contractual clauses, for establishing the terms of references for works, for operation and maintenance.
- c) At the constructor, for making at the work execution only of products and technologies qualitatively certified for insuring functional and technical demands by own quality system
- d) At technical experts, project verifier, project managers attested for complaining quality levels, for obeying specific process technical procedures.
- e) At administrators which are managing the functionality of a road network no mater the owner (state, local administration, private) for applying the operation instructions and a systematic accomplishment of maintenance and repairing works also the watching of the network behavior during usage.

For complaining of the legal framework of the responsible factors which compete at fulfillment of the road and bridges works has been established regulation for the following domains:

1. metrology activity in construction
2. quality management
3. behavior in usage, in time interventions , post utilization of works
4. technical agreement for products, procedures and equipments in construction
5. authorization and accreditation of the laboratory in construction
6. quality conformity certifying of the used products in construction

3. Key projects for national road infrastructure in Romania, where have been applied regulations regarding quality in construction

The national road rehabilitation program for insuring the condition of falling weight for simple axe by 115 KN, for road capacity and for road comfort and safety enhancement also the promoting of the national highway program have been generated a representative volume of new road works which concentrated large quantities of road materials and execution technologies. Key project which has been executed and has been elaborated and followed on the way of execution by international consultancies societies where has been applied and followed technical regulation to realize the quality level were:

- Bridges and passages rehabilitation for enhancement of falling weight and road capacity
- National road rehabilitation for the international traffic ways through corrective works of geometrical elements in vertical and horizontal plan, rising of falling weight capacity at 115 KN for simple axe.
- Elimination of black spots through specific works of crossroads and roads sectors with inadequate functional parameters which generate road accidents also the making of the third band on the slope sector, over width in curves, etc.
- Construction of highway sectors with priority on IV and IX European corridors on Romanian territory
- The drawing up of bypasses national program for minimize in town traffic and for shorting of route/way time.

4. Steps for implementation of European regulations in national roads and highways projects in Romania

In Romania the implementation of European regulations and of harmonized standards in roads field is carried out by national bodies ROAS (Romanian Association for Standardization) and RENAR (Romanian National Association of Standardization).

The implementation process of European norms/standards in roads infrastructure works field were rushed by real promoting conditions of this works, respective the carry out/realization of their execution with international firms from European countries with technical assistance at execution by European consultancy firms

Romanian National Company for Motorways and National Roads has the responsibility of national technical committee CT 187 for road infrastructure for taking over of European norms or for harmonization of national norms under ROAS coordination.

5. Operationally measures in insurance of works quality for satisfying national roads infrastructure users

The option for road transport within national transport system in Romania, concretized by important risings of the traffic levels, in conditions of a relative reduced national road and highways network, enforced a responsible approach of the works quality to obtain necessary safety and comfort conditions for users on configuration and existing parameters with minimum interventions.

The applied operational measures for executed works on national roads and highways network established in the context of the technical-legislative settlement framework have been synthetically the followings:

- The provision/stipulation in technical documents of parameters of measurable qualitative levels for existing parameters for technical status distinguished by technical expertise and by establishing of determinant stage of the project.
- The directly verification at the supplier of the quality of the used material for execution of the works and also verification for confirmation of the qualitative parameters at the entrepreneur before utilization in production process.
- The check of the technological conditions at the production of the materials for the roads (stabilized ballast, concrete, and pavement mixtures) to observe the alignment of the technical process and the insurance of the terms of references provisions.
- The verifications of the conditions for the application of produced materials (encasements, framework structures, etc) by directly determinations of proper physical measures
- The insurance of the road materials application or for concrete structure in continuously technological process , with the qualitative and quantitative insurance of the execution process through a permanent control of the pre-established quality conditions
- The measure with specialized equipments of the quality parameters done at the works execution both structural (strength, falling weight, stability, etc) and functional (smoothness, roughness, long profile, curve conversion, etc)

The operational measurement for ensuring and check the quality of works at designing, execution and functioning stage impose concentration of specific laboratory equipments, specific technological flow process equipments and technical personal, responsible and authorized.