

*Brindando **calidad**
a las **obras viales***

*Bringing **quality**
to the **roadworks***



**CORPORACIÓN PARA LA INVESTIGACIÓN
Y DESARROLLO EN ASFALTOS EN EL
SECTOR TRANSPORTE E INDUSTRIAL**

**RESEARCH AND DEVELOPMENT CORPORATION
ON ASPHALT IN THE TRANSPORTATION AND
INDUSTRIAL SECTORS**

OUR INSTITUTION

Corasfaltos (Research and Development Corporation on Asphalt in the Transportation and Industrial Sectors), was founded in December 14, 1995 based on the Science and Technology law number 29 of 1990 and dispositions of ordinance 393 of 1991. It operates as a Technology Development Center with active participation of the state, academic and industrial sectors.



MISSION

CORASFALTOS is a non-profit, public and private civil entity that works toward the integration, diffusion and improvement of knowledge on asphalts and the materials used in the construction of road infrastructure. It provides support to meet the technological needs related to asphalts and/or pavements to the industrial, state and educational sectors. In order to do so, CORASFALTOS has qualified human talent, state-of-the-art technology, expertise and physical infrastructure, working together with a philosophy of continuous improvement.



VISION

In the year 2019, CORASFALTOS will continue to be one of the primary options on the domestic market and it will increase its participation by means of knowledge networks on the international market, to solve problems concerning the road infrastructure of the industrial and transportation sectors, by providing specialized services and offering technological products resulting from its leadership in Research, Development and Innovation (R+D+i), providing alternatives for the creation of technology-based companies.



CERTIFICATION AND ACCREDITATION

CERTIFICATION ISO 9001 V. 2008 AND ACCREDITATION OF LABORATORIES NTC ISO / IEC-17025:2005

Keeping itself at the forefront on issues related to Asphalts and Pavements has made of CORASFALTOS a support institute for the Industry of roads building. With this aim it is certificated under the standard ISO 9001 V. 2008, in Formulation, Management, Execution and Project Evaluation of Investigation, Innovation and Technological Development, laboratory services and manufacture of additives for asphalt mixtures.

On June 8 of 2005 CORASFALTOS renewed its ACCREDITATION ISO-IEC-17025:2005 according to the Resolution 12821 of the Superintendency of Industry and Trade.

All our activities are conducted on the basis of a good practice, teamwork, responsibility and creativity, in order to obtain continuous process improvement, corporate positioning nationally and internationally, generating optimal solutions which raise the community life quality and contribute to the country's road infrastructure development.

QUALITY POLICY

CORASFALTOS committed to improving productivity and competitiveness of the productive sector through its Research, Development and Innovation activities (R+D+i), and to the constant search for satisfaction of their clients needs in trial works and evaluation tests of asphalts, asphalt mixes and aggregates, counts on technically trained staff and high technology that ensures compliance with technical and quality specifications in force, which are documented and disseminated within the organization; this commitment is based on its Quality Management system implemented under the standards ISO 9001:2008 and ISO 17025:2005.



PRODUCTS AND SERVICES



The quality of the road infrastructure is a primary factor for the social and economical development of any country. In this sense, CORASFALTOS contributes to the road development and the strengthening of the flexible pavements industry, supported by qualified personnel and high technology, by a portfolio of technological products and services including: specialty and patented technological

products, specialized laboratory services, technical assistance services, audit activities and Instructional Services.

Patented and Specialized Technological products

The technological offer of CORASFALTOS is the result of its processes of research, innovation and technological development, aimed to offer appropriate and innovative products, with technical and economical viability, to the conditions and needs of the industry.

Some of this Products are:

CHEMICAL STABILIZATION OF SOILS: METHODOLOGY TO IMPROVE ROADS AT LOW COST

Technique developed by CORASFALTOS, based on the analysis of the physicochemical and mechanical characteristics of soils, in order to optimize their performance in such a way as to mitigate their deterioration caused by passing vehicles, climatic effects and conditions typical of their operation. The aim is that plastic and no plastic soils, that have a particular bearing capacity



when dry, keep and even improve that property in presence of moisture.

ADICOL

Additive for expedited "curing" of asphalt mixtures prepared with heavy crude oils as bituminous

binder. Increasing their yield and economy in the roadwork up to a 25%, besides of quality, durability and adherence between components.

ADHESION IMPROVERS

Increase the adhesion between the asphalt binder and the mineral aggregates up to a 50%, avoiding the stripping of the asphalt from the aggregate during its lifetime and the aggressive influence of water and/or traffic on the asphalt pavement.

OTHER PRODUCTS

Products that have recently received national patents, which improve the features of the different asphalt mixtures produced in Colombia, raise the lifetime of the asphalt binder favoring the good function of the asphalt pavements, among other aspects.

The main products are:

- Asphalt emulsifiers.
- Test frame for dynamic evaluations by the use of semicylindrical specimens.
- Obtaining asphalt of considerable penetration grade starting from heavy crude oil.
- Production of modified asphalt with improved recycled rubber.
- Production of an asphalt coating to prevent the corrosion in underground pipelines and underwater equipment.
- Products that minimize the oxidation process of asphalts when used in pavements. This will provide longer lifetime of pavements.

Specialized Laboratory Services

The laboratory services offered by CORASFALTOS are focused on three main aspects that guarantee the quality, traceability and reliability of its results: 1) Count on a full provision of technology and cutting edge equipment in order to be in the vanguard, as an international lab. 2) Count on qualified staff, with specific abilities to exercise their functions, and 3) Count with accredited laboratories according to NTC ISO-IEC 17025:2005 and the certification of its processes according to the standard NTC ISP 9001:2008.





The services provided comprise mainly:

a) In Laboratory:

- Evaluation of materials for construction of road infrastructure.
- Evaluation of emulsions, asphalts and asphalt mixes.
- Evaluation of soils and aggregate.

b) In situ:

Has a mobile laboratory provided with the basic elements that allow taking decisions in an efficient and effective way about characterization of materials to construct road infrastructure, monitoring construction processes and auscultation activities for strategies of maintenance and rehabilitation of roads.

SERVICES OF TECHNICAL CONSULTANCY AND AUDIT ACTIVITIES

Consists mainly of:

- Technical assistance in methods and procedure to prepare asphalt mixes.
- Technical assistance in constructive methods and procedures.
- Evaluation of existing pavements.
- Technical assistance in selection, classification and use of materials.

SPECIALIZED TRAINING SERVICES

With the aim of transferring technological state-of-the-art knowledge, that promotes the generation of competences and abilities in managers, consultants, pavement inspectors, technicians, operators and researchers involved in the technological, productive and competitive development of the sector responsible for design, construction and maintenance of the road infrastructure, CORASFALTOS has designed a Specialized Training Programme in new technologies applied to the road construction with flexible pavements. This training is given in Bogota, Cali, Medellin, Armenia, Barranquilla and Bucaramanga. The portfolio of the program consists of more than 10 seminars, some of them are:

- ASPHALT TECHNOLOGY AND PRODUCTS TO OPTIMIZE ITS USE.
- TECHNOLOGY MANAGEMENT AND NEW TECHNOLOGIES IN ASPHALT PAVEMENTS.

- RHEOLOGY – PRINCIPLES AND APPLICATION IN RESEARCH AND DEVELOPMENT ON ASPHALT.
- EVALUATION AND PATHOLOGY OF FLEXIBLE PAVEMENTS.
- OPERATION, ATTENTION AND MANAGEMENT OF THE ROADWORKS MACHINERY.
- STRUCTURAL DESIGN OF FLEXIBLE PAVEMENTS.
- REHABILITATION OF FLEXIBLE PAVEMENTS.
- RATIONAL DESIGN OF PAVEMENTS.



Activities and instruments of transfer and extension

Includes to carry out publications and diffusion activities, used by CORASFALTOS, for the promotion at national and international level of its portfolio of services, technological products and exchange and transfer of knowledge.

Technical Week of Asphalt. International event comprised of the Latin America Asphalt Seminar and the International Conference of Asphalt, organized every two years, in order to get together researchers and industrialists from the sector of flexible pavements and show them the new technological development.

Journal "Asfaltos y Pavimentos" (Asphalts & Pavements). Technical journal which began publication in 1998, as an informative tool of CORASFALTOS and associate entities. It is oriented to researchers, engineers, companies and planning government agencies, in order to inform them about scientific and technical issues.

International Industrial Technology Missions. Involves to carry out international visits to research institutes, planning government agencies, road construction sites, asphalt plants, laboratories and international events, in order to exchange knowledge and the portfolio of products and services of the participant companies in the Mission.

Alliances, Agreements and Awards

CORASFALTOS has agreements and Technology & Scientific Cooperation alliances with universities, guilds, enterprises and support entities at national and international level, that strengthen the processes of research, innovation and technological development (I+D+i) from the industrial sector and itself. In the international level, the main cooperation partners are from countries like: Germany, China, Spain, United States and Russia.

Likewise, it promotes, participate and support dynamic activities and/or national and international stages of knowledge management, business into companies and technology transfer to improve the productivity and competitiveness of the industrial estate, such as:

- Corresponding Society of the Colombian Society of Engineers.
- President of the Pavements Committee of ICONTEC.
- Participant of the Roads Committee of the Colombian Society of Engineers.
- Participant of the Asphalt Committee of ECOPELROL S.A.
- Founding member of the Latin American Society of Asphalt (ALA).
- It is a member of the Road Ibero American Institute (IVIA) headquartered in Spain.

Otherwise, Corasfaltos has pioneered an international Network of experts that gives assistance to the industrial sector. The specialists come from: Italy, France, Japan, Russia, Spain, United States, Mexico, Venezuela, Brazil, Argentina and Chile, among others.

Partners

PUBLIC SECTOR

- Ministry of Transport
- Instituto Nacional de Vías – INVIAS
- Empresa Colombiana de Petróleos – ECOPELROL S.A.
- Servicio Nacional de Aprendizaje – SENA
- Gobernación de Santander

ACADEMIC SECTOR

- Universidad Industrial de Santander
- Universidad Pedagógica y Tecnológica de Colombia – UPTC
- Pontificia Universidad Javeriana
- Universidad Pontificia Bolivariana
- Escuela Colombiana de Ingeniería
- Universidad del Cauca

INDUSTRIAL SECTOR

- Sika Colombia S.A.
- Manufacturas y Procesos Industriales MPI LTDA.
- Concescol S.A.
- Mina San Pedro LTDA.
- Tecnopavimentos S.A.



Código N. 399-1
Producción de servicios de
Laboratorio y Fabricación
de Pavimento para Autóviles y
Mezclas Asfálticas
NTC – ISO 9001:2008



CERTIFICADO DE ACREDITACIÓN
Resolución 14362 NTC-BOPEC 17/05/2005



Industria y Comercio
SUPERINTENDENCIA
LABORATORIO DE ENSAYOS PARA
ASFALTOS Y MEZCLAS ASFÁLTICAS



Instituto Panamericano de Carreteras



Pan American Institute of Highways



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