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Contributions Regarding the Dimensioning of Airport Rigid Pavements

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Summary

The yearly increase, registered in the field of air merchandise and travelers traffic and also of the spaceships weight, leads to the fact that most airport rigid pavements that make up the runways and the cement concrete platforms existing in the patrimony of the internal and international airports of Romania (future member of the European Union), should be modernized based on some modern dimensioning measures, at international level.

The dimensioning methods of the new and reinforced airport rigid pavements, (the general/optimized method) presented in this paper are based on the calculation chart with finite element, the multi-layer procedure.

A special attention is also given to dimensioning criterion which has been approached, represented by the admitted tensile strength at bending of the cement concrete, of the hypotheses and of the calculation parameters. At the reinforcement

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of the rigid pavements, the admitted tensile strength at bending of the cement concrete refers to the concrete from the existing slab. The loading position is to the slab edge, with imprint tangent to the longitudinal joint. The real imprints are equivalent with the rectangular surfaces. The calculation loading is obtained both by the proportion of the real loading depending on the role of the airport surface, and also by taking into consideration the law of cement concrete tiring correlated with the number of superposing of the imprints.

Keywords: Runways and stationing platforms for spaceships, airport pavements, cement concrete surfacing, loadings, hypotheses, charts, calculation parameters and charts, dimensioning methods

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