



Storage platform for  
**MODULAR RECYCLE PARC**

**COMPANY: MODULO BETON at Montauban 82**

**SIZING OF THE PAVEMENT STRUCTURE**

***N.B.:*** The stress on this structure is defined by the distributed loading of the cement concrete modules. The maximum pressure applied on the surface layer is represented by the 4 metre modules, i.e.: 0.22 MPa,

*This low operating stress is far removed from the stresses on roadway pavement structures sized on the basis of the aggressivity of a standard axle loaded with 13 tonnes and modelled by the reference pressure of a standard coupling, i.e. 0.66 MPa.*

**Proposed structure:**

Surface layer = 5 cm of 0/10 Semi-Seeded Bituminous Concrete  
Distortion modulus = 5400 MPa e 6 =  $100 \cdot 10^{-6}$

Base layer = 20 cm of 0/20 Untreated Gravel  
Distortion modulus = 400 MPa

Form layer = PF2 class  
Distortion modulus = 50 MPa

For this objective, the thickness of the form layer constructed in materials insensitive to water will be compatible with the minimum context required of the bearing soil: Upper Part of the Earthworks **PST2** and Earthwork Levelling, bearing capacity class **ARL**.

Distortion modulus = 30 MPa

**Checking of the pavement structure for the access road with the ALIZE III sizing process.**

In the case of low volume traffic highways, composed of a low thickness bearing layer upon an untreated granular foundation, no calculation criterion is applied for the foundation material.

For this pavement structure, the contractor will confirm that the rutting of unbound granular layers and of the bearing soil remains below the value held as admissible. Failing any other data, this check will be made assuming a vertical distortion criterion eZ of the form

$$eZ_{ad} = 0.016 \text{ (NE) } - 0.222$$

The low aggressivity coefficient represented by the stress from these concrete modules, in comparison with the standard 13-tonne axle, leads to an admissible value for vertical distortion of the bearing soil  $eZ_{ad} = 2820 \cdot 10^{-6}$

**Based on the structure adopted, the result calculated for vertical distortion of the bearing soil ez at the soil surface being =  $1363 \cdot 10^{-6}$  is less than 2820 demonstrates that the proposed structure for the stress represented by 3 and 4 metre concrete modules is compliant.**

Toulouse le 30/11/2005