

# GEOPOLYMER CAMP 2021.

## USE OF GEOPOLYMER TECHNIQUES FOR PUBLIC WORKS .

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HYDROGEOTECHNIQUE . FRANCE.

## WHO IS JEAN CLAUDE GRESS ?

- 1971 Graduated from Ecole Nationale Ponts et Chaussées.
- 1971-1983. Geotechnical Engineer in FONDASOL : more than thousand buildings and bridges foundations studies.
- 1983-2012. I developed HYDROGEOTECHNIQUE ; today 68 engineers working still on buildings and bridges foundations studies but also on highways, motorways , railways, canals, dams, dykes, etc ;
- 1983-2012. Professor Ecole Nationale Travaux Publics de l'Etat ; Soil and Rock Stabilisation and Treatment Techniques.
- 2012-2021. Geotechnical Expert.
- 2012-2020 .Mayor of FONTAINES small city.

## Discover Geopolymer Techniques through J DAVIDOVITS videos. Wonder if it could be interesting for public works ?

- FIRST TOPIC. Hardening of road courses. Base, subbase and load bearing soil are nowadays hardened with lime and cement or hydraulic binders. Why not geopolymer techniques ?

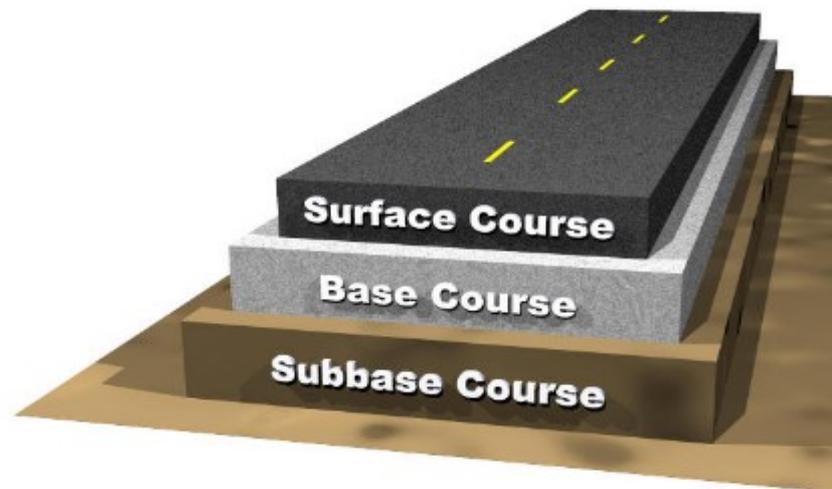


Figure 2: Basic Flexible Pavement Structure

## GEOPOLYMERS FOR GRAVEL ROADS ?

- Second one. Mayor of FONTAINES. 2000 inhabitants. 30 km of gravel field paths. Thousand of potholes. Possible to avoid with geopolymers ?



## GEOPOLYMERS FOR PUBLIC WORKS ?

- THIRD ONE. Natural cavities or underground quarries. Possible to fill it with a geopolymer foam : soil of low plasticity, foaming agent, geopolymer technique ?



## GEOPOLYMERS FOR PUBLIC WORKS ?

- FOURTH ONE .Precast blocks for retaining walls .



## GEOPOLYMERS FOR PUBLIC WORKS ?

- SIXTH ONE . Noise barrier. Soil hardened through geopolymer technique.



## GEOPOLYMERS FOR PUBLIC WORKS ?

- SEVENTH . Soil reinforcement through soil treated columns.



## **GEOPOLYMERS FOR PUBLIC WORKS ?**

**THANK YOU FOR YOUR ATTENTION .**