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MODERN TECHNOLOGY OF KAZAKHSTAN

Fiber-Sludge-Sulfur-Beton (FiSHSB)

Eurasian patent organization (EAPO)
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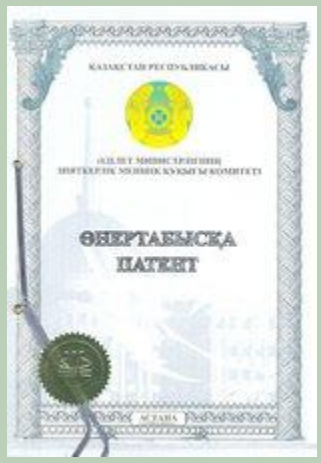

A METHOD OF PRODUCING FISHSB (THE FIBER-SLUDGE-SULPHUR CONCRETE)
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THE PRINCIPLE OF FISHSB TECHNOLOGY.

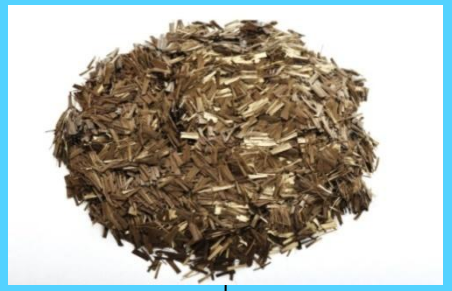
- The process of making FiSHSB is similar to the technology of mastic asphalt and represents as a "hot concrete".
- The raw materials for FiSHSB:

Drilling cuttings/mud (15-20%)

Modified sulfur (25-30%)

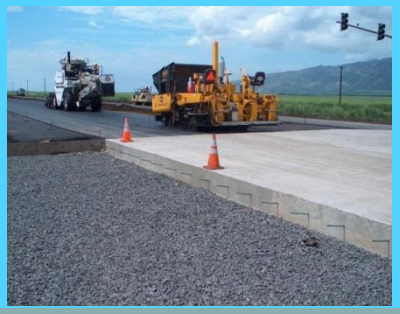
Sand (47-55%)

Basalt fiber (3-5%)



Module for the production of FiSHSB

Construction of roads and fabrication of concrete products.



COMPARATIVE CHARACTERISTICS OF SULFUR CONCRETE AND PORTLAND CEMENT CONCRETE

The name of the properties (tests)	Sulfur concrete	Portland cement concrete
Moisture resistance	1,0	0,8
Chemical resistance (to acids), %	84	23
Frost resistance (100% humidity)	300	50
Abrasion, %	3	17
Compressive strength, MPa	55–65	15–25
Flexural strength, MPa	10–15	6–9
Tensile strength, MPa	5–7	3–4
The period of strength	3 hours	28 days

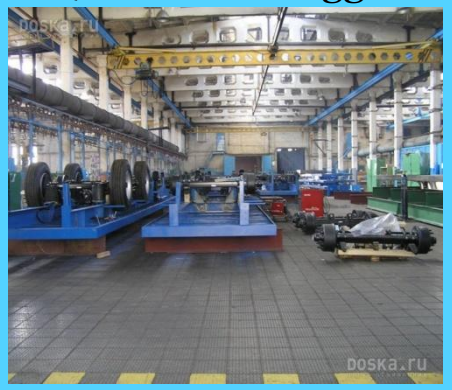
COMPARATIVE EXPERIENCE ON RESISTANCE TO 20% SULFURIC ACID

Ordinary concrete after 3 weeks **Sulfur concrete after 3 years**

PROPOSAL FOR USE OF FISHSB IN KAZATOMPROM

1.Concrete pipes for VR and PR (The possibility of use in the winter).

2. Tiles inside of factory and TUZ (resistant to aggressive environments).



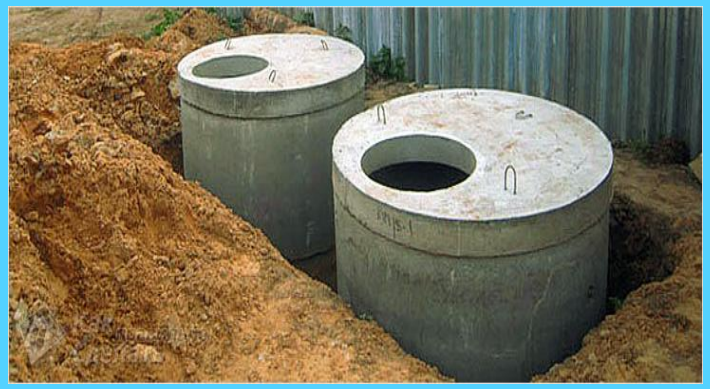
3. Tiles for industrial areas (outside of plants).

4. Fundamental blocks under tanks with sulfuric acid.

PROPOSAL FOR USE OF FISHSB IN KAZATOMPROM

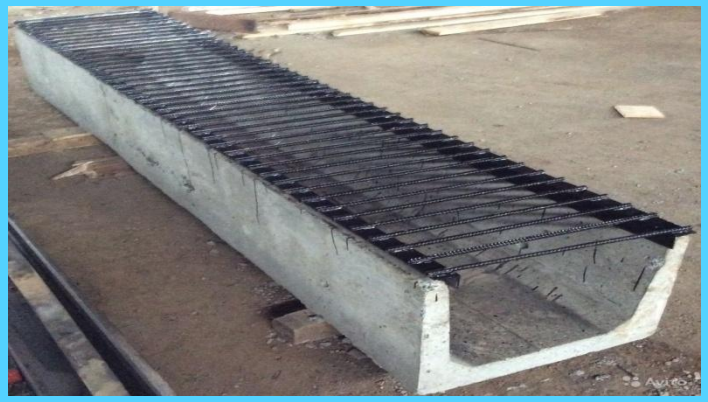
5. Fences for well heads.

6. Tanks for TUZ drainage.



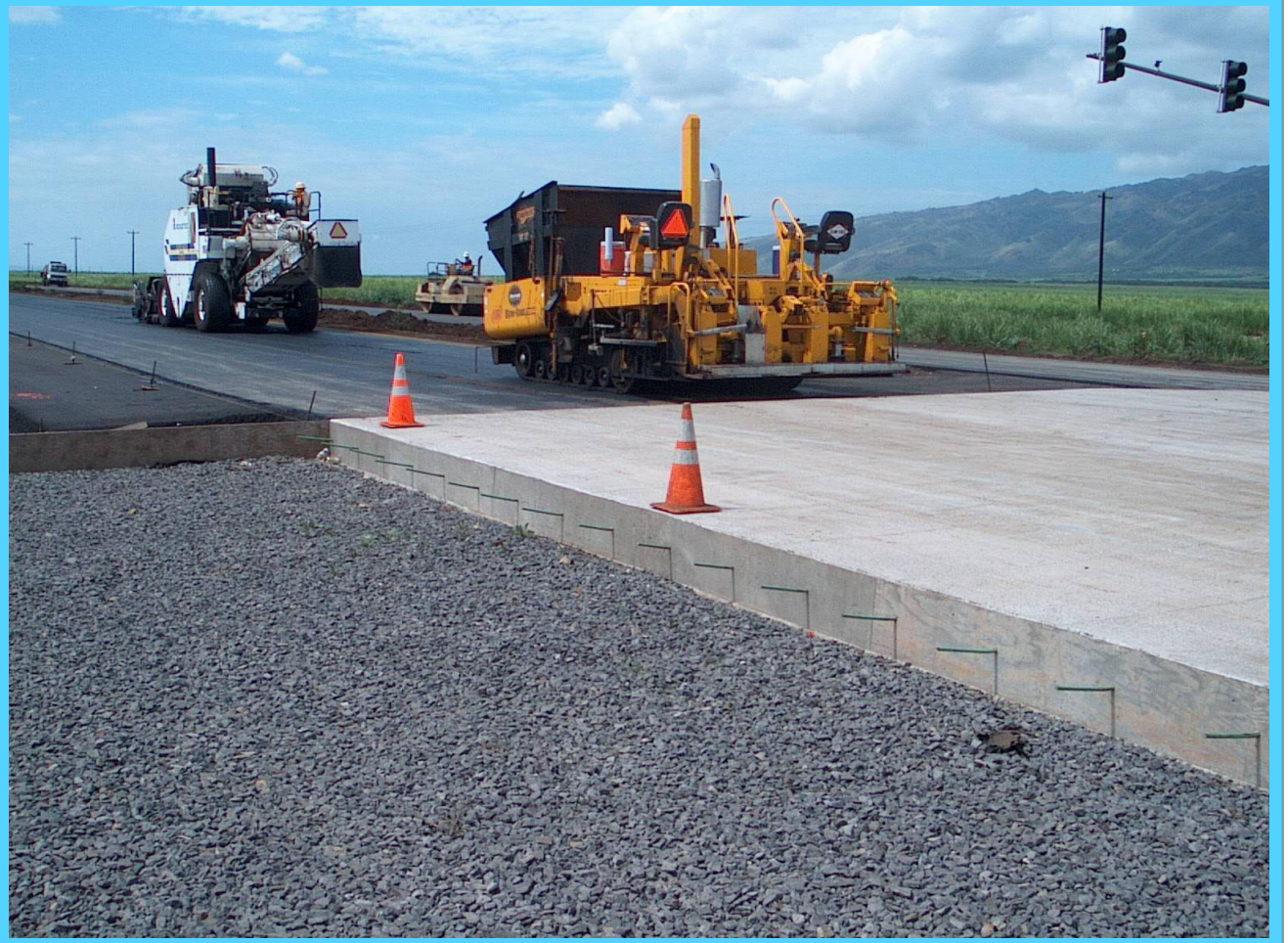
7. Concrete plates for infield roads.

8. The drain line.



FISHSB FOR ROADS CONSTRUCTION

Technological roads at many mining sites constructed under the old standards, which are not designed for the weight of modern vehicles. FISHSB is a sustainable material to the weight of cargo and resistant to chemical substances.



ADVANTAGES OF FISHSB TECHNOLOGY.

- Ability to work in the winter, as the process does not use cement and water. Mud ponds mainly filled in the winter, because of low evaporation.
- Technology has environmental, social and economic effects.
- Lower cost of raw materials, reuse of industrial waste (sulfur and drilling mud)
- High resistance to aggressive environments (alkali, acid).
- FISHSB production – 105 tons/hour.
- The possibility of internal production and use of FISHSB (curbs, tiles, tanks for TUZ drainage) allows you to save on the purchase of concrete products from third parties.
- The mobility of the technology allows you to work in any region of Kazakhstan.