The Prayon DA-HF process© for producing phosphoric acid by sulphuric acid attack of natural phosphate rocks is a modern process leading to high P₂O₅ yield and giving, as a by-product, hemihydrate calcium sulphate. Dihydrate calcium sulphate is produced in the attack section where the phosphate is attacked by sulphuric acid. Then, the gypsum slurry recrystallizes into hemihydrate calcium sulphate in the conversion section before being filtered to produce the phosphoric acid.

This process has been developed to produce phosphoric acid with a high P₂O₅ content (about 32-35%) while only one filtration step is required.

THE MAIN CHARACTERISTICS OF THE PROCESS ARE

+ high strength phosacid
+ high P₂O₅ recovery (97.5-98%)
+ reduced CAPEX for high efficiency process
+ self-drying gypsum

RECOMMENDED FOR LOCATIONS

+ to adapt current Dihydrate process plant and improve profitability
+ with medium high-cost rock
+ with potential market for gypsum

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PROCESS LICENSING

- Phosphoric acid production
- Phosphoric acid concentration
- Fluorine recovery
- Gas scrubbing
- Phosphoric acid purification
- Gypsum purification
- Uranium extraction from phosphoric acid

CONSULTING

If requested by the customer, Prayon Technologies can provide the following services:

- Technical support for existing units
- Training of operators
- Phosphate rock evaluation

PRAYON TECHNOLOGIES S.A.
LICENSING DIVISION OF PRAYON

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