

Siliporite® solutions for natural gas processing



CECA offers the wide range of Siliporite® molecular sieves with optimized formulations and technical services to improve natural gas treatments.

Natural gas drying and sweetening

Why using Siliporite® molecular sieves?

Natural gas is produced in very wet conditions and must be dried to protect the compression equipment. When liquefied the moisture requirements are even more stringent. CECA's Siliporite® molecular sieves are widely used to **dry natural gas to very low dew points**.

Benefits of using Siliporite® molecular sieves

CECA has developed a wide range of molecular sieves to address the diversity of issues encountered in drying natural gas.

- technical support by molecular sieves experts
- design and operating conditions
- loading assistance
- on-site services
- troubleshooting support
- unit optimization solutions
- major references

Siliporite® molecular sieves features

All commercial pore sizes (3A, 4A, 5A and 13X) will address the different types of impurities, such as H₂S, mercaptans, hydrocarbons, methanol, mercury, chlorine, acids, etc.

- beads, pellets and trilobes will address pressure drop and velocity issues,
- combined properties: high kinetics, mechanical and chemical resistance, high adsorption capacity,
- high severity specialty grades: acid resistant, amine resistant, COS minimization, etc.,
- cost-effective debottlenecking possible with our Optisieve® range, designed to build compact adsorbers,
- packaged offers with other adsorbents: alumina, silica gel and supports such as ceramic balls and grids.

Siliporite® expertise support

CECA has developed a very strong expertise in **dehydration** and **sweetening** solutions for the natural gas industry. This expertise is backed by a number of major references throughout the globe.

Our team of experts is dedicated to helping our customers to solve their processing issues, supporting existing units in troubleshooting operating issues, but also optimizing the way the unit is run to maximize performance and minimize costs.

Services provided

Design	Based on your inputs, our experts will recommend adsorber design, operating conditions, product package.
Loading assistance	Loading supervision to guarantee proper packing of the adsorbers Start-up supervision Training of operators
On-site services	Analytical testing on site to assess unit performance and plan for molecular sieve cycle time
Troubleshooting support	Off- and on-site Troubleshooting support
Optimization solutions	Unit follow-up, diagnosis and conditions Optimization

Specialty grades

Amine resistance

Siliporite® SRA belongs to the 4A type family, and was developed and patented by CECA for the drying of natural and associated gases under difficult operating

conditions. It was especially developed for amine resistance and COS minimization.

This grade has higher adsorption capacity and kinetics than a standard 4A sieve. It has a high bulk density enabling a higher adsorption capacity by volume. With this grade, very low dew points can be achieved to meet the specification for LNG production.

Selective drying

Siliporite® NK30 COS is a 3A type molecular sieve grade for NG and NGL drying with COS minimization. This grade maximizes water adsorption, while minimizing co-adsorption of H₂S and mercaptans. It offers good resistance and low catalytic activity (minimizing coke formation).

Siliporite® SRC is also a 3A type molecular sieve. It is a high density product for NG/NGL drying with COS minimization. SRC outperforms the other 3A products for unsaturated natural gas drying when methanol is present.

Acid resistance

Sour gas fields, due to their high content of H₂S, CO₂ and other sulfur compounds, are difficult to treat with conventional molecular sieves, which are destroyed by the acidity of the field.

CECA has developed **Siliporite® RA** to address this issue. Siliporite® RA provides excellent longevity compared to 3A and 4A, which do not perform well under thermal regeneration with acid gas due to their degradation. An additional benefit of **Siliporite® RA** is its COS minimization properties.