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INTRODUCTION

MISSIONS
ACHIEVEMENTS
SERVICES



Nitel Pars Co., a subsidiary of FATEH GROUP, established in 2007 based on the high demand of Iranian Process Industries for Adsorbents (Molecular Sieves/Activated Alumina/Silica Gel/ Activated Carbon), Catalysts and Chemicals and related Engineering, Procurement & Sales/ After Sales Services.

Nitel Pars Co. is a Multi-National firm of well qualified and experienced Companies/Professional Engineers with the in-house capability to Manufacture & Supply as well as implementing Engineering & Design for Adsorption & Catalytic Processes.

Our modern, holistic and practical approach to tightening up these essential business processes resulted in a great profitability and punctuality for all major projects undertaken by the company.

Our Responsibilities & Commitments with Engineering Backbone resulted to be considered as Reliable Company for Design / Revamp and Providing the Know-How and Engineering Services of the Adsorbent & Catalytic Process.

The consequence of this approach led to that NitelPars succeeded to receive the knowledge-based evidence from Iranian Vice-Presidency for science and technology in 2016. It was awarded to the company with the highest grade (Manufacturer knowledge-based company) due to using knowledge and science toward increasing of product quality, creating new products, troubleshooting and debottlenecking on adsorption process etc.

Our goals for localization of high demand Adsorbents & Catalysts Production resulted In Nitel Pars Production Complex in Shiraz, Iran.

MISSION

Technology Transfer & Manufacturing

Localization of High-Technology Materials Production.

Research & Development

Invest in necessary Research and Development on Adsorption / Catalytic Processes Units to make sure that the Clients' business runs smoothly and profits grow.

Software Development

Development of in-house Software for simulation of Adsorption Processes to Evaluate and configure the Process Units for Better Performance.

Engineering & Design

Enhance in-house Engineering and Design Capabilities for Grass-Root Design or Revamp of Process Units.

Material Supply

Supply High Quality Materials from reputable Manufacturers in parallel to represent the New High Technology Developments (Manufacturing and Engineering) in Adsorbent and Catalyst fields to improve Process Performance.

Sales & after Sales Services

Experience Responding to Technical/ Commercial Need; Providing Engineering / Design and Sales/ after Sales Services.

ACHIEMENTS

Research & Development

Several studies and researches performed on development/ replacement of new Adsorbents for severe Process Conditions to improve Process Performance. New& High Technology Materials Developed and Supplied to the concerned industries with successful operational results fulfilling the required Process Guarantees. The Technical Articles for successful researches / developments published in reputable international journals.

Software Development

In-house software for Adsorption Processes Simulation and Optimization are developed.

Engineering & Design

Performed Several Process Conceptual, Basic and Detail Designs for Adsorption Process Units.
Performed Several Catalytic Process Units Study and Optimization Process Parameters to Improve Process Performance in case of Replacement of Process Licensor Catalysts.

Material Supply

Professional Supply of High Quality Adsorbents/Catalysts and Chemicals with Competitive Price.

Sales & After Sales Services

Mechanized and Integrated Sales and after Sales Services to fulfill and satisfy the Client's Requirements.

NITEL PARS SERVICES

- **Engineering Services**

Nite Pars provides Engineering services for Grass-Root/ Revamp; Design for Adsorption as well as Modification for Catalytic Processes.

- **After Sales Services**

No oars provides integrated After Sales Services to make sure customers are satisfied with the products and services of our company.

NitelPars

Production Complex (Shiraz - IRAN)



- **Manufacturing**

Nitel Pars manufactures various types of Molecular Sieves for the various process applications.

- **Material Supply**

Nitel Pars supplies various types of Catalysts, Chemicals, Silica-gel & Activated Carbon, produced by the Reputable and Qualified international Manufactures for the various process applications.

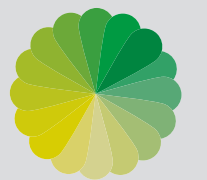
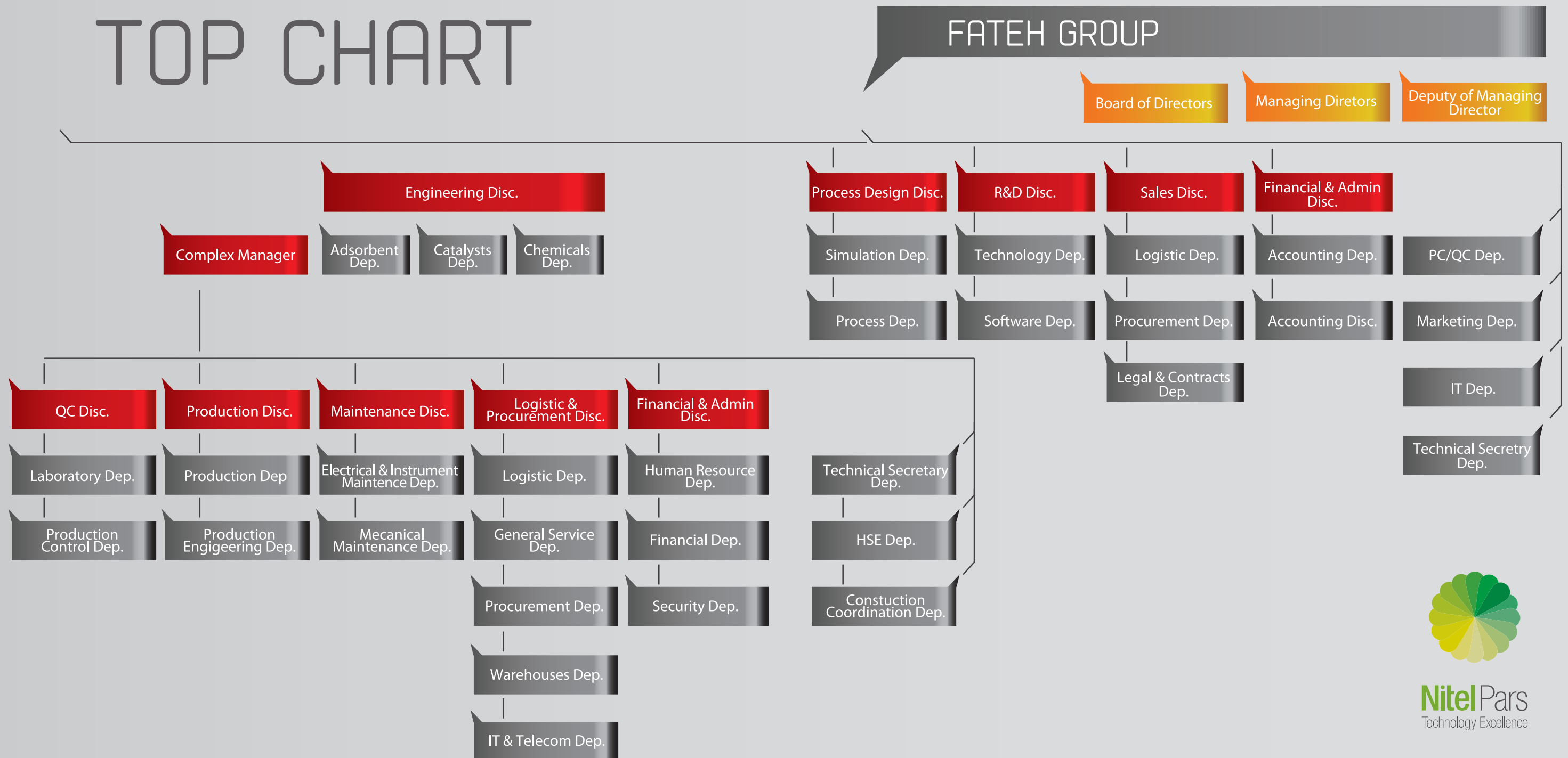
- **Research & Development**

Nitel Pars provides Research and Development for new requirements of Adsorption and Catalytic Processes.

- **Laboratory Services**

Nitel Pars provides Laboratory Services for analyzing Characteristics / Performance of different Adsorbents Types.

ORGANIZATION TOP CHART



Nitel Pars

NITEL PARS SERVICES

- MANUFACTURING
- NITEL PARS PRODUCTION COMPLEX
- MATERIAL SUPPLY
- ENGINEERING SERVICES
- AFTER SALES SERVICES
- RESEARCH AND DEVELOPMENT
- LABORATORY SERVICES



MANUFACTURING

Nitel Pars manufactures wide range of High Quality Molecular Sieves / Activated Alumina produced in the Nitel Pars Production Complex (SEEZ, Shiraz, Iran) summarized in the following table:

PRODUCT	TYPE	PRODUCT CODE		
MOLECULAR SIEVE	A	3A	HYD03B (3A) HYG03C (3A EPG) HYD03C HYD03A HYGZ300	
		4A	HYG04C (4A) HYG04DG (4A DG) HYZZ404B HYGZ400A HYGC04C	
		5A	HYD05C (5A) HYGB500A (PSA-H2) HYGB500B (PSA-O2) HYD5000A-NWA-II B HYD05G-IPS 1.6 (5A-IPS) HYZ05C	
		X	10X	HYD08B HYD10A (13X) HYD10A-OXY (13X PG) HYD10B (13X APG) HYD10D (13X HP) HYG10E HYZ10E HYDB100D HYGB100C/D
			13X	HYA280 HYA300 HYA340
			Promoted Activated Alumina	HYAS200

NITEL PARS PRODUCTION COMPLEX

Nitel Pars Production Complex established in 2012 to produce different types of Molecular Sieves & Catalysts for local market as well as Middle East Countries. The complex located in Shiraz Especial Economic Zone in an area more than 40,000 m²; to be developed in 4 different phases considering the market demand.

The 1st phase of the Complex, has been completed and exploited. This phase includes 2 fully Automatic Production Lines (Bead & Pellet) with a capacity of 10,000 MT/Year to produce high quality Molecular sieve (Type A & X) for the local market.



Material Supply

CATALYSTS

Nitel Pars supplies different types of High Quality Catalysts produced by the Reputable and Qualified International Manufactures summarized in the following table:

FIELD	PROCESS UNIT	CATALYST CATEGORY
OIL REFINING	Hydrocracking	Graded Guards
		Hydrodemetallization (HDM)
		Hydrodenitrogenation (HDN)
		Hydrodesulphurization (HDS)
		High Pressure Hydrocracking (HCR)
		Mild Hydrocracking (MHC)
	Residue Crude Desulphurization (RCD / RDS)	Graded Guards
		Hydrodemetallization (HDM)
		Hydrofenitrogenation (HDN)
		Hydrodesulphurization (HDS)
	Fluidized Catalytic Cracking (FCC)	FCC / RFCC
		FCC / RFCC Additives
	Cracked Gasolin Hydrotreating (CGH)	Selective Hydrotreating while minimum Octane Loss
	Hydrotreating (HDT)	Naphtha Hydrotreating (NHT)
		Kerosene Hydrotreating (KHT)
		Diesel Hydrotreating (GHT)
	Isomerization & Reforming Feed Stocks Purification	Chloride Guard (Alumina-based & Metal-based)
		Sulphur Guard
Hydrogen Generation	Feed Stocks Purification (Chloride, Mercury, Arsine, COS Removal & Hydrodesulphurization)	
	Pre-Reforming	
	Steam Reforming	
	Shift Convertors Series (HTSC, MTSC, LTSC) Methanation	

FIELD	PROCESS UNIT	CATALYST CATEGORY
Petrochemical	Styrene Monomer (SM)	Potassium Trap Support Ball Dehydrogenation Oxidation
	Ethyl Benzene (EB)	Alkylation Trans-Alkylation
	Ethylene Oxide (EO)	Ethylene Oxide
	Urea & Ammonia	Feed Stocks Purification (Chloride, Mercury, Arsine, COS Removal & Hydrodesulphurization)
		Pre-Reforming
		Steam Reforming
		Secondary Reforming
		Shift Convertors Series (HTSC, MTSC, LTSC)
		Ammonia Synthesis
	Propylene Polymerization	Hydrogen Removal
Urea Synthesis		
Ziegler-Natta		
Activated Clay		
Gas Processing	BTX	Pd Catalyst
	Sulphur Recovery	Claus (Alumina & Promoted Alumina)
		Hydrolysis (Titania-based)
Steel Industry	LPG Extraction / Caustic Regeneration	Tail Gas Treatment
	Desulphurization	Mercaptane Oxidation
Chemical Industry	Reforming	Zinc Oxide
	Sulphuric Acid	Auto-Thermal Reforming Vanadium Pentoxide

ADSORBENTS

Adsorbents
 Activated Carbon
 Silica Gel
 Special Adsorbents



ADSORBENTS

Nitel Pars supplies different types of High Quality Activated Carbon /Silica Gel produced by the Reputable and Qualified International Manufactures summarized in the following table:

Adsorbents Type	Application
Activated Carbon	Natural Gas Purification
	Solvents (Amines, Glycols & etc.) Purification
	Merox Process in Mercaptan Removal in Petroleum Refineries
	Heavy Metals (Mercury, Arsine, etc.) Removal
	Industrial and Municipal Waste Water Treatment
	Industrial Air Purification
	Chemicals Recovery
	Decolorization
	Gold Extraction
	Petroleum Sweetening
	Ultra-Pure Water Industry
	Alcohol Purification
	Production and destruction of Phosgene
	Precious metal Catalyst Carrier in Pharmaceutical and Chemical Industry.
Dehydrogenating Reaction	
Silica Gel	Oxidation Reaction
	Dehalogenation Reaction
	Gas Dehydration
	Hydrocarbon Dew Point Controlling
	Hydrogen Purification (PSA)
	Air Drying and Separation
Special Adsorbents	As a Catalyst Carrier
	As a Guard Layer in Gas Dehydration
	Chloride Removal
	Mercury Removal
	Arsine Removal
	Sulfur Removal
Nitrogen/Oxygen Separation	
Etc.	

CHEMICALS

AMINES
 ANTIOXIDANTS
 ION EXCHANGE RESINS
 CATALYST ACTIVATOR
 Salts
 Solvents
 Anti-Foams
 Other Chemicals

CHEMICALS

Nitel Pars supplies different types of High Quality Chemicals produced by the Reputable and Qualified International Manufacturers summarized in the following table:

Chemical Type	Application
Amines	Methyl Di Ethanol Amine (MDEA)
	Activated Methyl Di Ethanol Amine (AMDEA)
	Di Ethanol Amine (DEA)
	Di Glycol Amine (DGA)
	Cyclohexylamine
Antioxidants	Antioxidant 1010
	Antioxidant 1076
	Antioxidant 168
	Antioxidant DSTDP
	TRIS PHENYL PHOSPHITE (TPP)
Ion Exchange Resins	Poly(St-DVB) strong&weak acidic cation exchange resins
	Poly(St-DVB) strong&weak base anion exchange resins
	Epoxy and Phenolic exchange resins
	Polyacrylate exchange resins
	Mixed-bed resins
Catalyst Activator	Tetra Chloro Ethylene (PCE)
	Di Methyl Di Sulfide (DMDS)
Salts	Ethylene Diamine Tetra Acetic Acid (EDTA)
	Sodium Nitrite (SDN)
Solvents	Di Methyl Formamide (DMF)
	N-Methyl-2-Pyrrolidone (NMP)
	N-Formyl Morpholine (NFM)
Anti-foams	Anti-foam SAG 7133
	Anti-foam SY-4028
Other Chemicals	Para Menthane Hydroprooxide (PMH)
	Para Tertiary Butyl Catachol (TBC)
	Morpholine

ENGINEERING SERVICES



We are committed to delivering the highest Quality Engineering Services in parallel to the Qualified products. Nitel Pars Engineering Services help you to ensure your Process Unit will meet the feed, products and optimized by operating conditions as well as Integrity with the whole Plant.

Our design specifications founded on process simulations backed up by vast R&D expertise, and are continually updated based on field data.

We design new Adsorption Units/Packages, optimize and revamp the existing ones with revamp studies ranging from scoping studies, feasibility studies, and engineering design.

The following Engineering Services are provided by us for Adsorption Process Units:

- Feasibility Study
- Conceptual and Basic Design
- HAZOP studies
- Technical Assistance for Loading / Unloading
- Technical Assistance for Performance Test/Start-up
- Modification, optimization and Revamping of the Under Operation Units/Facilities
- Consultation and Troubleshooting of the Units/Facilities
- Training for Engineering and Operational Personnel
- In addition to the above, Nitel Pars Engineering Services are extended to Evaluation and consultation for Replacement of the Catalysts & Chemicals with the New Reputable International Brands.



AFTER SALES SERVICES

Nitel Pars provides Integrated and Professional after Sales Services to make sure customers are satisfied with the products and services. we offer a complete suite of on-site field services to provide our Clients with their required support as follows:

Commissioning and Start-up

On-site start-up, commissioning and test-run support to ensure the Process meets design specifications and Qualified production.



Adsorbent Support

Nitel Pars engineers are available to be on-site offering functional process design to maximize the efficiency of our adsorbents. Field start-up assistance also ensures quick and effective implementation of our adsorbents. Our technical support staff can also provide performance evaluations to facilitate preventive action and troubleshooting to proactively diagnose problem.

Catalyst Support

Ensures that your catalyst loadings are handled properly and loaded based on the International Standards. Dense loading technology and facilities will be provided to increase operating severity, cycle length, and throughput.

Troubleshooting

Nitel Pars support on-site monitoring for safe and economical operations.

RESEARCH & DEVELOPMENT

Nitel Pars R&D team consists of high educated and well-trained Academic Researchers and Professional Engineers to develop new adsorbents for special and severe Processes as well as Improving the performance of the existing units.

R&D team can perform Research for the Clients new requirements and provides proved solutions. Developed customized software for different Adsorption Processes help us to simulate and optimize the processes based on their exact applications.

The Professional and fully equipped laboratory in our factory enable us to improve our Adsorbent Characteristics for better Process Performance and higher lifetime.

Nitel Pars R&D researches are presented and Applied Technical / Scientific Articles are published by the International and Reputable Journals (to be continued).

LABORATORY SERVICES

- Surface Area
- Pore Volume
- Crush Strength
- Moisture Content
- Particle Size Distribution



LABORATORY

Nitel pars Laboratory in her Production Complex is fully equipped with Modern Equipment and Facilities to enable our experts to serve the Production Lines with Advance Quality Control from Raw Material to Final Product. Such facilities provides appropriate conditions for Integrated R&D team for research and development of modified Molecular Sieves. Acquisitioning laboratory certificate calibration have made us to offer relevant services to our Clients. The following Analyses can be performed as per Client's request:

- Porosity
- Tapped & Bulk Density
- Water and CO2 Adsorption Capacity
- Attrition Loss
- Loss On Ignition (LOI)
- Iodine Number, Methylene Blue Adsorption, Total Ash Content, Moisture and pH of Activated Carbon
- Etc.

IMS CERTIFICATES



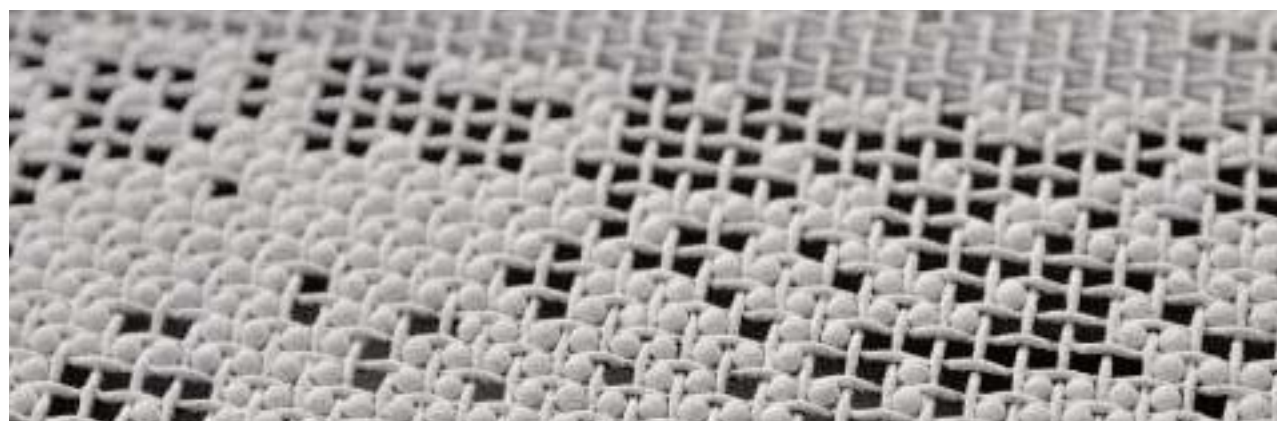
MOLECULAR SIEVE APPLICATIONS

NATURAL GAS PROCESSING

SERVICE	MS 3A	MS 4A	MS 5A	MS 13X
Natural Gas Drying				
Natural gas sweetening				
Condensate drying				
Condensate sweetening				
LPG drying				
LPG sweetening				
Propane drying				
Propane sweetening				
Butane drying				
Butane sweetening				
LNG drying				
LNG sweetening				
CO2 removal from natural gas				
H2S removal from natural gas				

REFINING

SERVICE	MS 3A	MS 4A	MS 5A	MS 13X
CATALYTIC REFORMING				
Naphtha drying				
Naphtha sweetening				
Hydrogen recycle treatment				
Regeneration catalyst gas treatment				
ISOMERIZATION				
Feedstock drying				
Feedstock sweetening				
Hydrogen make-up drying				
Hydrogen purification				
HYDROTREATMENT				
Hydrogen purification				
HF ALKYLATION				
Feedstock drying				
STEAM REFORMING				
Hydrogen purification				
ETHYLENE-BENZENE ALKYLATION				
Benzene drying				
Ethylene drying				
AROMATICS				
Benzene drying				
Toluene drying				
Xylene drying				
Cyclohexane drying				



REFINING

SIEVES	MS 3A	MS 4A	MS 5A	MS 13X
FINISHING				
Propane drying				
Propane sweetening				
Butane drying				
Butane sweetening				
Pentane drying				
Pentane sweetening				
Hexane drying				
Hexane sweetening				
LPG drying				
LPG sweetening				
Kerosene drying				
Jet fuel drying				
Gas oil drying				
Solvent drying				
B.T.X. drying				
SEPARATION				
Normal and isoparaffins separation				

PETROCHEMICALS

SIEVES	MS 3A	MS 4A	MS 5A	MS 13X
STEAM CRACKING				
Cracked gas drying				
Cracked liquid drying				
C2 cut drying				
C3 cut drying				
Hydrogen drying				
CO2 removal				
Propylene drying				
Butadiene drying				
Other olefins drying				
Other diolefins drying				
SYNTHETIC RUBBER				
Methyl chloride drying				
Propylene drying				
POLYMERIZATION				
Feedstock drying				
Feedstock purification				
Solvent drying				
LAB PRODUCTION				
Benzene drying				
Paraffins drying				



CHEMICALS

SERVICE	MS 3A	MS 4A	MS 5A	MS 13X
ACETIC ACID				
Process gas treatment				
Air separation plant				
AMMONIA				
Synthesis gas drying and purification				
Purge gas treatment				
HYDROGEN UNIT				
Hydrogen recovery				
Hydrogen purification				
OTHERS				
Alcohol drying				
Chlorofluorohydrocarbons drying				
Chlorofluorohydrocarbons purification				
Solvent drying				
Solvent purification				



MISCELLANEOUS

SERVICE	MS 3A	MS 4A	MS 5A	MS 13X
Instrument air				
Air before cryogenic processing				
CO2 drying				
Drying of CO2 (breweries)				
Oxygen/Nitrogen separation				
Nitrogen drying				
Argon drying				
Helium drying				
Hydrogen drying				
Hydrogen purification				
Inert gas drying				
Blanket gas drying				
CO2 removal from blanket gases				
Propellant drying/sweetening				





Nitel Pars
Technology Excellence