



DYCLAR

NEXT-GENERATION WATER SOLUTIONS

2022



DYCLAR

ABOUT US

DYCLAR GMBH INVESTS IN THE DEVELOPMENT OF TECHNOLOGY TO **PROTECT THE AQUATIC LIFE** AND CONSERVE THE RESOURCES OF OUR CUSTOMERS

OUR MISSION

TO MAINTAIN AND IMPROVE WATER AND ECOLOGICAL BALANCE

BASED IN

SWITZERLAND



PATENTED TECHNOLOGY OF WATER & WASTEWATER TREATMENT

60+

projects for mining, water utilities, chemical industry, oil and gas industry, metallurgy, energy sector



SUSTAINABILITY is an integrated part of our business

GOAL 13

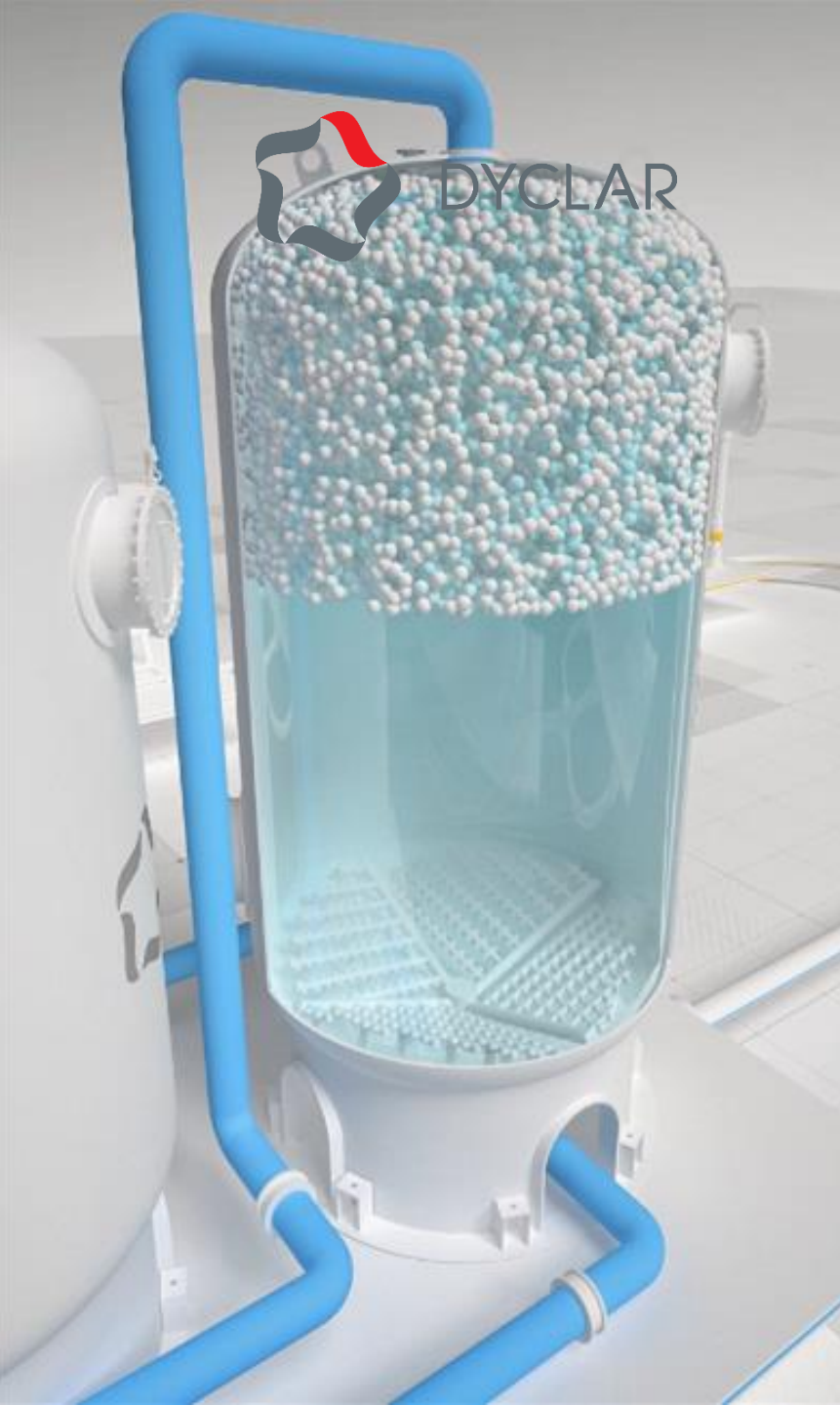
Take urgent actions to combat climate change and its effects

GOAL 14

Conserve and sustainably use the oceans, seas and marine resources

GOAL 6

Ensure access to water and sanitation for all



IS USED FOR **WATER** and **WASTEWATER TREATMENT**

Dyclar is clarification-filtration 2 in 1
for high-turbidity water & wastewater

INLET

WASTE WATER

mining, industrial
and other

SURFACE WATER

river & lake water

PROCESS WATER

- Color
- Turbidity
- Total suspended solids
- COD
- Iron
- Aluminum

OUTLET

PRE-treatment
for membrane
(REVERSE OSMOSIS,
ULTRAFILTRATION)
& ION-EXCHANGE processes

Process water (including
reuse and recycling)

Tertiary treatment

Discharge of treated
wastewater to rivers or
lakes

TSS
99%
removal

IRON
98%
removal

COD
82%
removal

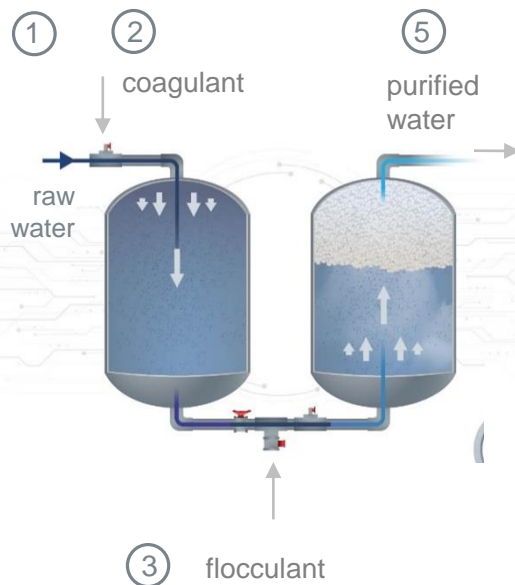
Q of chemical agents

coagulant =
25 - 50 g/m³

flocculant =
0,5 - 1 g/m³

Dyclar GMBH
offers
own branded
chemicals
Dyclar FMA
Dyclar VA

FILTRATION MODE 20-30 hours



REGENERATION MODE 45 minutes



Physical-chemical
purification method,
mixes water with a
chemical agents and
filtering through a
floating granular filtering
media inside
pressurized vessels

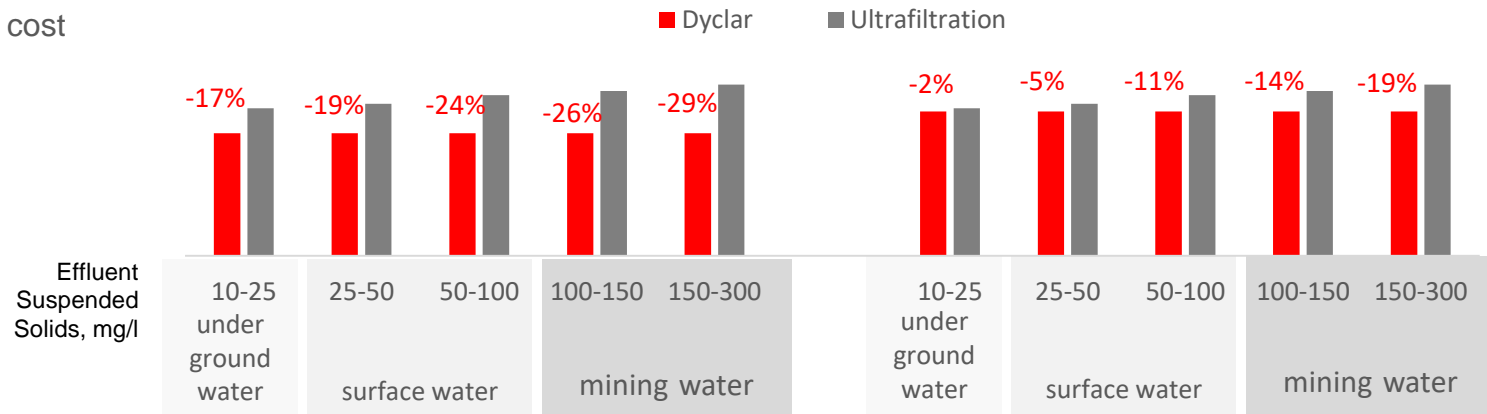
1. Influent water entering the Dyclar volumetric reactor.
2. Dosing of DYCLEAR VA reagent to cause cohesion of colloidal particles.
3. Dosing of DYCLEAR FMA promotes enlarging of the particles and activates the Inert filtering media.
4. «Activated» Inert filtering media acts like magnet, attracting flocs of contaminants.
5. Clarified water effluent (TSS, turbidity, SDI, Al, Fe and other parameters are reduced).
6. Regeneration of dirt-holding capacity of filtering media takes place periodically (controlled by pressure drop).
7. Backwash is carried out with air and water. No chemicals are required.
8. Amount of water required for backwash is minimal, due to the effective sequence of regeneration procedures

Comparison
of competitors:

CAPEX
+ installation cost

TREATMENT
FOR DEMINERALIZATION
TSS < 1

TREATMENT
FOR TECHNICAL WATER AND BASINS
TSS < 3



- Dyclar is less sensitive to feed water quality in terms of turbidity, color, as well as suspended solids content and microbiological Contamination
- One-Stage treatment of surface water without need for additional pre-treatment
- Filter media doesn't require Replacement

- No use of dangerous acids and alkaline chemicals for backwashing or for industrial wastewater filtration
- Resistant to water hammer
- A much wider range of working load with respect to the performance of Dyclar technology

ADVANTAGES OVER SAND-BALLASTED **SEDIMENTATION**

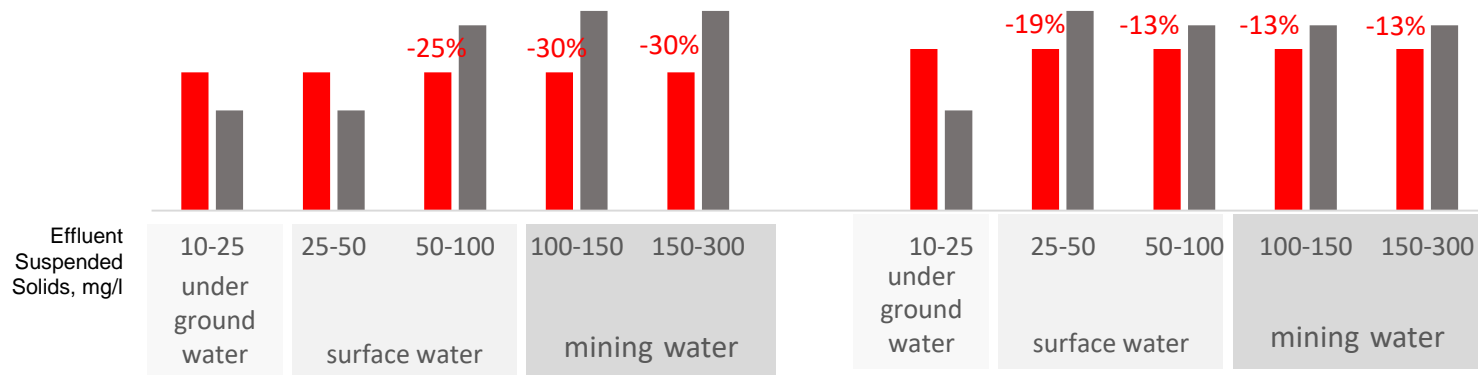
Comparison
of competitors:

CAPEX

TREATMENT
FOR TECHNICAL WATER AND BASINS
TSS < 3

TREATMENT
FOR DEMINERALIZATION
TSS < 1

■ Dyclar ■ Actiflo



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- Compact footprint: Dyclar filtration rate is 15 - 20 m/h, and for MF is 5 - 15 m/h
- Improved effluent quality (NTU<1, TSS <1.5ppm, PO4<0.1ppm, Fe <0.1 ppm, COD/BOD reduction more than 70%)
- Gravity assisted backwash with lower pressure and reduced water consumption
- Longer service life of the media (20 years for DYCLAR vs 10 years for mechanical filters)
- Dyclar floating filtering media is not subject to microbial clogging and mudding

MINING WATER TREATMENT PLANT / 2020



The implementation of Dyclar process allowed the Plant to significantly reduce the cost of ownership by increasing treatment capacity via an integrated two-flow dynamic clarification operation

Performance 2000 m³/h

Footprint 36 x 78 m

Drain water 13% only



	Raw mining water	Treated water
solids	352 mg/l	<= 2,18 mg/l
Fe	2,1 mg/l	<=0,105 mg/l
Al	6,9 mg/l	<=0,04 mg/l

You can discuss the details of project with the official representative of Dyclar GMBH

WATER TREATMENT FOR CHEMICAL INDUSTRY / 2018



Under this project, the Dyclar process replaced the outdated conventional clarifiers that treated foul waters of the River. Upon installation of Dyclar technology, the water turbidity, iron and aluminum content dropped to zero while the water color dropped below 5 PCU.

Performance 160 - 200 m³/h

Footprint 9 x 12 m

Drain water 6-10% only

Water
temperature +5 °C



	Raw river water	Treated water
solids	15 - 20 mg/l	<< 1 mg/l
Turbidity	~ 17-25 mg/l	NTU<1, SDI<2.5
Fe	2 mg/l	<0,01 mg/l
Al	0,5 mg/l	<0,02 mg/l

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WATER TREATMENT FOR CHEMICAL INDUSTRY / 2018



An advanced water clarification project was implemented at the Ethylene Production Plant. For production of a demineralized condensate with a maximum electric conductivity of 0.2 $\mu\text{S}/\text{cm}$ in Bld.

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Stationary



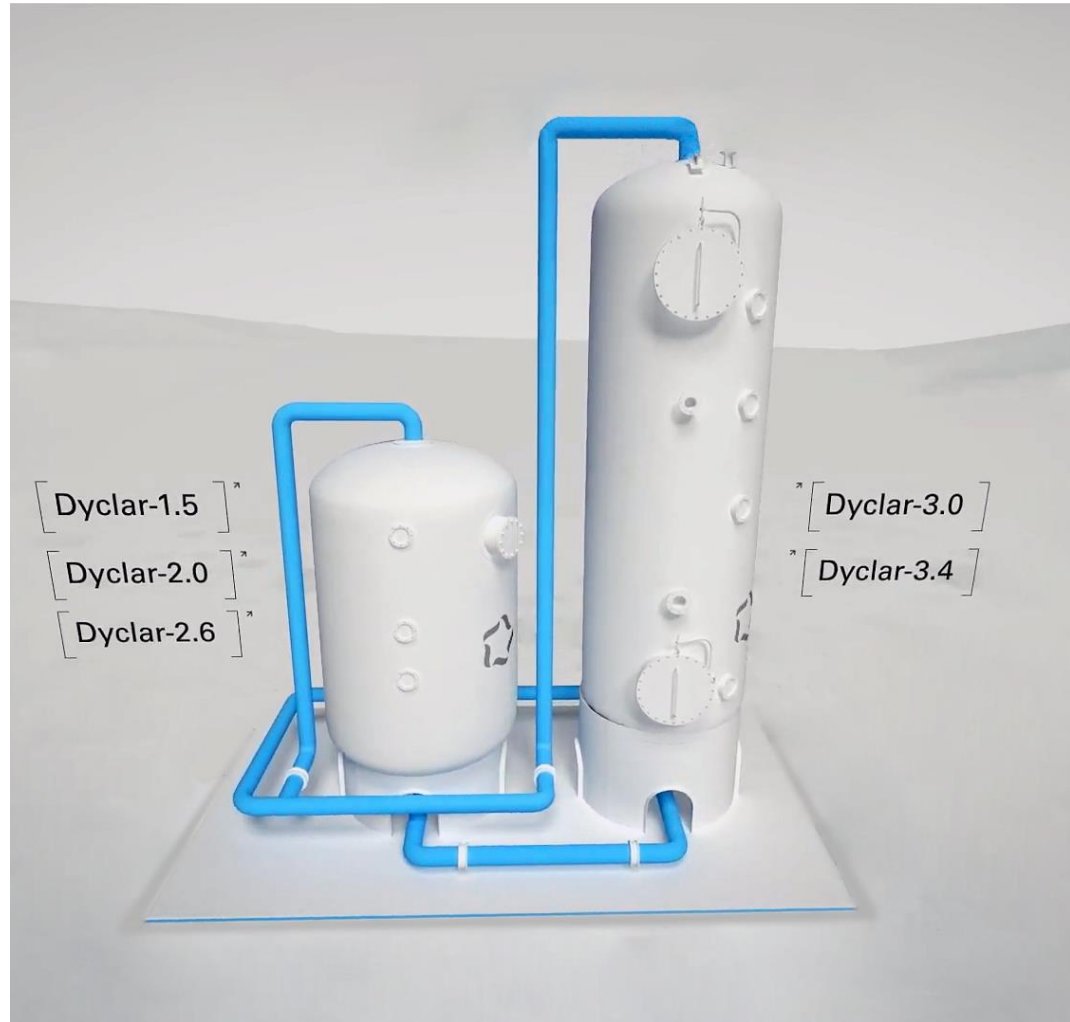
Block modular



Mobile



Standard sizes of Dyclar housings



DYCLAR gmbh

Try before you buy – request pilot test:

welcome@dyclar.com

