



**WATER TREATMENT AT POWER PLANT**

# Cooling Water Make-Up Product Recommendations

Cooling water systems need to replace water loss resulting from drift, evaporation, and blowdown. Depending on the region, water source, and cooling tower type, a number of technologies may be required to treat makeup water before it enters the cooling tower system. Dow offers a variety of membrane solutions to fit your water source, condition, availability, and your specific treatment goals.

TECHNOLOGY	PRODUCT	APPLICATION	FEATURES
<b>ULTRAFILTRATION MODULE AND SKID</b>	DOW IntegraFlux™ SFP-2880XP Module	Suspended Solids Removal	High permeability and high mechanical strength hollow fiber polyvinylidene fluoride (PVDF) membranes. The modules provide excellent performance, industry leading membrane area with low energy and chemical consumption. XP fiber provides up to 35% higher permeability than previous generation modules, improving operating efficiencies and productivity.
	DOW™ Ultrafiltration SFP-2880 Module		High mechanical strength hollow fiber PVDF membranes. The modules provide excellent performance with industry leading membrane area.
	DOW IntegraPac™ IP-77XP Skid		Skids are pre-engineered, standardized, and ready to assemble. Comprising of DOW IntegraPac™ modules (standard and XP fiber), auxiliary parts, and piping the skids can significantly streamline design, assembly, and installation. Flexible sizing with 6-22 modules per skid.
	DOW IntegraPac™ IP-77 Skid		
<b>NANOFILTRATION ELEMENTS</b>	DOW FILMTEC™ NF270-400/34	Softening	A product suitable for removal of a high percentage of total organic carbon (TOC) and with medium to high salt passage and medium hardness passage at very low operating pressures.
	DOW FILMTEC™ NF90-400/34	Softening/ Partial Deminearalization	A product suitable for high hardness removal and partial monovalent ion passage at low operating pressures.
<b>REVERSE OSMOSIS ELEMENTS</b>	DOW FILMTEC™ ECO PRO-440	Deminearalization from Controlled Feedwater Source (municipal/high quality)	State-of-the-art solution to deliver high salt rejection at low operating pressure reducing CAPEX and OPEX.
	DOW FILMTEC™ BW30HR-440		Very high rejection proven at broad Total Dissolved Solids (TDS) range, coupled with reduced footprint installations.
	DOW FILMTEC™ BW30HRLE-440		Delivers low operating pressure coupled with a good permeate purity.
	DOW FILMTEC™ XLE-440		High-quality permeate water at low operating costs.
	DOW FILMTEC™ BW30-400		Established industry reference product providing consistent, high performance and long element life with decades of proven performance
	DOW FILMTEC™ FORTILIFE™ CR 100	Deminearalization from Challenging Feedwater Source	State-of-the-art solution to tackle tough fouling coupled with excellent salt rejection.
	DOW FILMTEC™ ECO PRO-400		State-of-the-art solution to deliver high salt rejection at low operating pressure reducing CAPEX and OPEX.
	DOW FILMTEC™ BW30XFR-400/34		Established high fouling resistance and fouling removal efficiency coupled with very high rejection proven at broad TDS range.
	DOW FILMTEC™ BW30XFRLE-400/34		Improved fouling resistance as well as efficiency of element´s cleaning combined with low energy consumption and good water purity.
	DOW FILMTEC™ BW30-400/34		Consistent and reliable high operational performance coupled with increased productivity comparing to BW30-365.
	DOW FILMTEC™ BW30-365	Seawater Desalination	Established industry reference product providing consistent, high performance and long element life with decades of proven performance.
	DOW FILMTEC™ SW30HRLE-400		High rejection at sustainable lower lifecycle cost for medium- and high-salinity feedwaters.
	DOW FILMTEC™ SW30HRLE-440		
	DOW FILMTEC™ SW30XLE-400		
DOW FILMTEC™ SW30XLE-440	Advanced combination of productivity and rejection resulting in a low energy seawater element, enabling lowest operation cost.		

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TECHNOLOGY	PRODUCT	APPLICATION	FEATURES
ION EXCHANGE	AMBERLITE™ HPR1100 Na	Softening	Uniform particle size softening resin with excellent physical stability and low rinse profile.
	AMBERLITE™ HPR1200 Na		Designed to be the go-to, high-quality uniform particle size SAC resin. Offers excellent operating capacity and rinse characteristics while compatible with all system technologies.
	AMBERLITE™ IRC120 Na		General-purpose, durable resin offers a good balance of capacity and strength resulting in long lifetime for co-flow regenerated systems.
	AMBERLITE™ IRC83 H		General-purpose high-capacity dealkalization and softening resin with improved operating capacity demonstrated in high TDS Na form operation.

### Powering performance worldwide.

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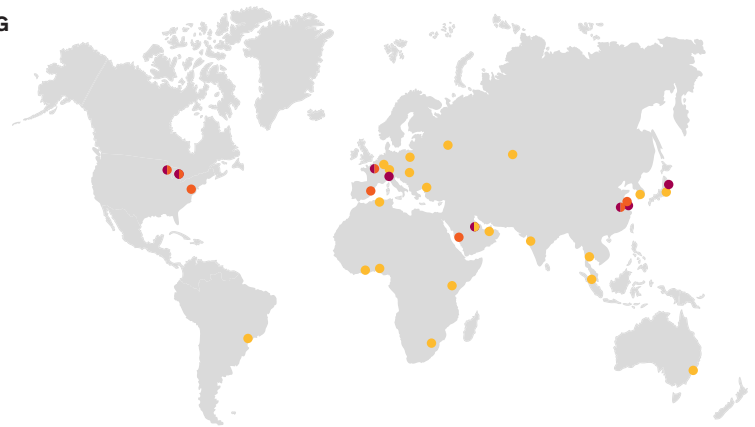
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WARNING: Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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