



Technology ■ Innovation ■ Experience ■

The PURPLAN GmbH – a dynamic plant engineering and construction company with a clear focus on polyurethane, paint, coating and resin applications

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PURPLAN Solutions



**PURproject-
management**



PURdesign



PURcontrol



PURconstruct



PURservice





PURprojectmanagement

Individualized Project Configuration

A cooperative partnership is essential to successful project management and an intelligent project execution during the entire value-added chain is a key factor to success. We at PURPLAN put great emphasis on communication and work closely with our customer right from the beginning. By keeping short decision-making paths and as well as being highly flexible we adjust the project set-up individually to the desired scope as well as the requirements and challenges of our customers. Our hallmarks are professional project handling and reliability, from the first draft during the project development all the way to project management and controlling. With our know-how and long-standing experience in developing and building turnkey industrial plants, we are a competent and reliable partner to our customers.



INtime INbudget INquality

PURcontracting – advanced

- Time can be saved
- Used for detail engineering
- Open book
- Project management by the contractor (Less effort for the customer)
- Intervention and control opportunities for the customer
- Risk sharing
- Open handling of risks allows a holistic view and therefore an optimization of project performance/ total cost of ownership relations
- Joint procurement (Depending on the budget higher quality components can be sourced)
- Contractor fee:
 - Planning and engineering service with work performance record
 - Predefined surcharge for components and materials (The customer benefits from the contractors market expertise and experience)
 - For executing partial projects the contractor is competing with others (The contractor submits the quotation first)
- The customer can terminate the contract at any given point
- The project manager can be exchanged if requested
- Significantly more time for the detail engineering process

Basic Evaluation and Basic Engineering

Bidding and Quotation

Awarding of the Contract

Detail Engineering and Procurement

Commissioning and Start of Production

- Time and cost consuming
- Specialist on customer's site required
- Decision in favor of general contractor (GC) is often cost driven
- Limited intervention opportunities concerning component choice and schedule compliance
- Quality and construction execution are heavily influenced by the GC's project team
- Claims management and additions by the GC
- Risk premiums in the GC's contract/quotation (GC bears the full risk)
- Usually no possibility of contract termination for the customer
- Possibly little technical or commercial transparency
- Labor intensive management for the customer
- (Project manager for mech./elec. required on customer's site)
- Short detail engineering phase
- Not always the best solutions (technically as well as economically) due to pressure of time



PURdesign

PURPLAN delivers the entirety of the plant construction. To keep production down-times to a minimum and to commission the equipment as fast as possible, a high degree of prefabrication is necessary. Therefore, all departments work close together. Starting with a feasibility analysis followed by CAD-Design, the result will be a highly-detailed bill of material. Depending on the project's scope, we distinguish between Basic Engineering, Extended Basic Engineering and Detailed Engineering. We believe, that thought-out planning and precise design are the key for a successful technical realization.

Furthermore, PURPLAN can also lead discussions with regional authorities and government agencies regarding approvals and permits.

3D/CAD CONSTRUCTION

- ✓ AutoCAD, Plant 3D, P&ID
- ✓ Autodesk Inventor
- ✓ 3D scanning for plant acquisition
- ✓ Virtual Reality

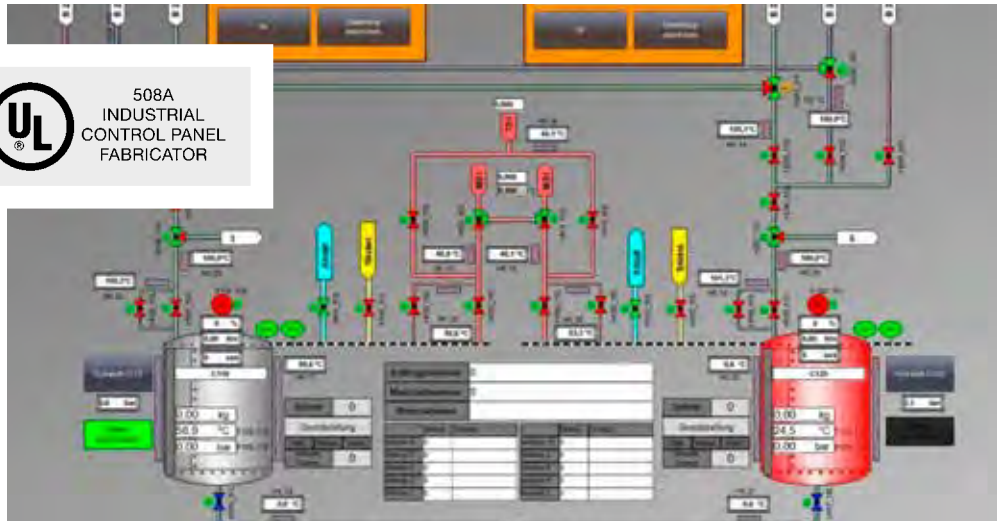




PURcontrol

Reliable Process Automation

The handling of chemical substances requires the highest degree of trust and quality. PURPLAN automation engineering is specially focused on our customer processes. We develop custom-made concepts from main control panels including remote I/O/HMI/emergency stop, software to the qualified commissioning. PURPLAN automation engineering can address the entire range of process automation in fluid and solid applications including hazardous location applications. This includes user friendly Human Machine Interface (HMI), central process management system for control of complex mixing – and blending systems together with a worldwide remote monitoring and control service and distinct safety standards.



508A
INDUSTRIAL
CONTROL PANEL
FABRICATOR

Siemens SIMATIC S5, S7 | Siemens SIMATIC TIA-Portal V13/V14
Siemens SIMATIC WinCC flexible | Siemens SIMATIC WinCC (TIA-Portal)
Siemens SCADA SIMATIC WinCC V7.x | Add-On PM-Control, PM-Quality and
PM-Open-HOST | Allen Bradley RSLogix5000 | GTI PROCON-WIN | Siemens
PCS 7 | PURbatch Software Solutions | Simulations



PURconstruct

Technical Precision and Craftsmanship

We know, due to our experience in realizing different projects in the chemical industry, that installation is not just like installation. Therefore, PURPLAN counts on highly skilled employees and engineering expertise. A well-integrated team fulfills the scope of work according to DIN CEN/TS1591-4 also maintaining a high level of occupational safety. Our certified electricians and fitters are SCC trained; our certified welders are licensed for all welding methods. Periodic trainings of our staff maintain a high level of quality. PURPLAN-Quality ensures a smooth installation and a faultless operation.

WHG | AMS-Certified (German BG) | AD 2000 – HP0/HP100R | DGRL 2014/68/EU | EN1090-1 | EN1090-2 | ISO 3834-2 | ISO 9606-1 | Qualified Welders according to QW-301, Section IX | SCC-Trained Staff (Safety Certified Contractor) | AMS (Systematic Occupational Safety)





PURservice

Maintenance

Our promise of quality is accomplished, once the assembly of your plant is done and the system is ready to use then our promise of quality is accomplished. With locations in Germany, China, and the United States we are regularly available whenever a customer needs us. With a complete maintenance schedule, customized maintenance work, individual concepts for operating optimizations, and a fast-spare part service, PURPLAN's plant manufacturing instills confidence through proper maintenance and service inclusive.



PURPLAN Plants

PURstorage – Bulk Storage | PURbatch – Mixing Stations
PURplant – Reaction Plants | PURutilities – Supplying Facilities
PURproducts – Standard Products

PURstorage – Bulk Storage

Core Competence Bulk Storage

PURPLAN combines accurate engineering with technical expertise to meet the operating requirements for environmental hazard and flammable liquids. The construction of specific bulk storage systems including the related pipeline construction are our core competencies. Based on a dialog with our customers we create complex solutions (valuable and custom made) according to all standards and regulations.





Solutions for all Requirements

Engineering and construction of tank farms and bulk storage tanks with sizes ranging from 1 to 100 cubic meters of holding capacity, can be built as single-jacketed and double-jacketed versions made of carbon steel, stainless steel, or glass-fiber reinforced plastic. Tanks can be installed upright, horizontally, or even underground. Based on the application requirements, tanks can be supplied with additional parts such as an agitator, a temperature control system, insulation, an operating safety unloading interlock and an E-stop or reloading point if necessary.

PUR KNOW-HOW

- ✓ Polyol, MDI, TDI
- ✓ Resins, Curing Agents
- ✓ Binding Agents
- ✓ Glues, Bitumen
- ✓ Acids, Alkalis
- ✓ Activators
- ✓ Catalysts
- ✓ Flame-Retardants
- ✓ Adhesives
- ✓ Glycol
- ✓ Polyester Resins
- ✓ Coating Raw Materials

PURbatch – Mixing Stations

Precision at blending

Besides exact dosing, precision at blending determines the quality of the products in the chemical industry in a significant way. PURPLAN delivers and installs fully automatic mixing stations with high process reliability and comfortable user interface. For example adequate mixing of fluids with solids or the dosing of small amounts and activators, continuous or as batch process.





Turn-Key Chemical Production Facility

Our performance spectrum extends from individual laboratory reactors to the engineering and construction of an individual pilot plant right up to a turnkey chemical polyurethane production facility. Our experienced engineers will also provide an optimized solution for the often difficult system-decoupling for dosing applications with agitators. This is PURPLAN know-how for a custom-made PUR-Production.

PUR KNOW-HOW

- ✓ Batch or continuous process
- ✓ Fully automatic weighing and blending of components
- ✓ Dosing of solids
- ✓ Dosing of activators and small amounts
- ✓ Tank with tempering
- ✓ Fully automatic process control
- ✓ Batch process, gravimetric or volumetric
- ✓ Adjustment and sensing of vacuum and pressure
- ✓ Dosing Units

PURplant – Reaction Plants

Individual Reactors for Modern Synthetic Resins

Synthetic resins play a major role as binding agents in coatings systems and adhesives. Our customer's highest requirement is the optimal material flow and dosing accuracies, which are the two key factors for successful production. PURPLAN fulfills this requirement; our reactors are individually built for the modern synthetic resin production focusing on the particular requirement profile.





Cost-minimizing and reproducible Batches

Using a horizontal design for a reactor, optimal material flow and high dosing accuracies can be combined in a low space requirement. This ensures an efficient production process and consistent quality. Also, overall production costs are minimized while a reproducible production is guaranteed. Our portfolio includes the design and installation of synthetic resin actuators from -1 to +10 bar and up to 300° C.

PUR KNOW-HOW

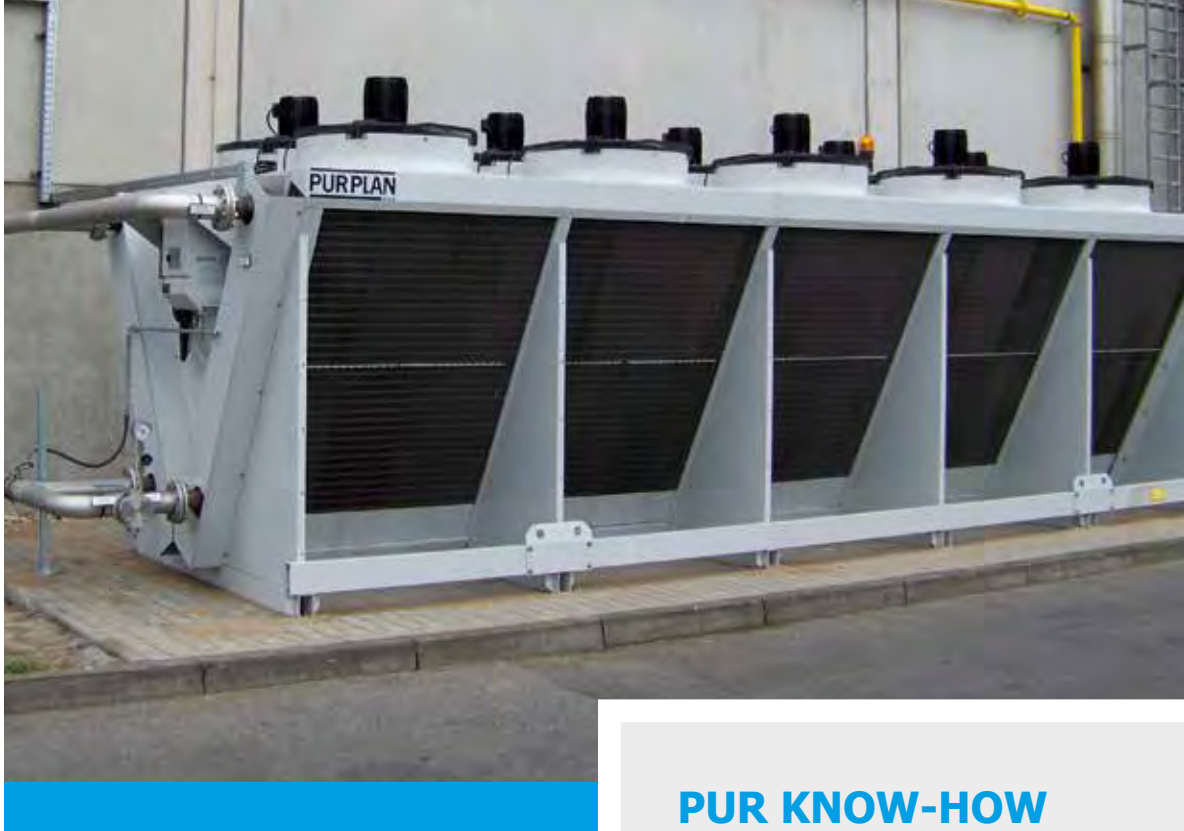
- ✓ Prepolymer Reactors
- ✓ PUR-Recycling Plants
- ✓ Phenolic Resins Reactors
- ✓ Acrylate Plants
- ✓ PU-Dispersion Plants
- ✓ Polyester Reactors
- ✓ Alkyd Plants
- ✓ Printing Ink Resins
- ✓ Epoxy Resins
- ✓ Isocyanate Resins
- ✓ Latex Dispersions
- ✓ Polyol Resins
- ✓ Polyurethane Resins

PURutilities – Supplying Facilities

Economic Efficiency determines our Design

PURPLAN delivers plants for the chemical industry and the related utilities in its entirety. We know that energy is a main factor for profitability. Plants, in which all components are well-tuned, help to save energy. We make our contribution using fully integrated utilities and optimal tempering systems.





A high amount of production processes require heating or cooling equipment. We ensure that external heat and cold are supplied consistently and reliably. We include the optimal integration of our utilities from the very first draft. Warm or hot water, cooling or vacuum technology – our engineers design the system to use any source of energy in an optimal way.

Warm Water | Hot Water | Thermal Oil | Steam | Chillers | Compressed Air | Nitrogen | Vacuum PUR

PUR KNOW-HOW

- ✓ Warm water up to 90°C
- ✓ Hot water up to 130°C
- ✓ Thermal oil up to 320°C
- ✓ Steam up to 64 bar and 20 t/h
- ✓ Pre-fabricated secondary circuits
- ✓ Boiler systems incl. fuel supply and exhaust system
- ✓ Tempering and energy concepts
- ✓ Water treatment
- ✓ Nitrogen supply units
- ✓ Compressed air supply units
- ✓ Cooling water systems

PURproducts – Standard Products

Basis for your individual Success

PURPLAN standard products are a real basis for your individual success since our standard items are much more than just “off the shelf” products. Along with our experience and combined with our know-how in setting- up complex industrial plants, we are providing high-quality standard products and pre-fabricated modules. Installations such as container-stations, dosing units and even supply units for testing stations. As always at PURPLAN, these products will be adjusted and customized according to our clients’ requirements. Thus our standard becomes a strong basis for tailor-made installations.

Filling Manipulator



Mobile Scales

Washing Basins



Our standard products, Your benefit

PURPLAN standard items are provide a variety of benefits. As these products have been designed in a modular format, they can be produced very quickly and without any obstacles. Due to this design they can be adapted to individual production requirements and the challenges associated with them. Thus our standard solutions are the perfect addition to existing industrial installations.

PUR KNOW-HOW

- ✓ Filling Manipulator
- ✓ Mobile Scales
- ✓ Washing Basins
- ✓ Dosing Units
- ✓ Heating Pockets
- ✓ Software PURbatch
- ✓ Degassing Systems
- ✓ Melting units for carbon black
- ✓ Collecting basins according to WHG (German water resources act)

PURproducts – Standard Products



Aboveground tank farms



Jacketed piping



Deadman Switches



Container Stations



Bottom-Inlet Boxes

PUR KNOW-HOW

- ✓ Aboveground tank farms with bottom drain
- ✓ Jacketed piping; suitable for both heating and cooling
- ✓ Deadman Switches
- ✓ Container Stations
- ✓ Bottom-Inlet Boxes

We are PURPLAN

We design and build chemical processing plants with a focus on polyurethanes and synthetic resins applications. Starting at the individual project set-up and the automation technology up to the turnkey handover as well as the commissioning and maintenance, everything is being supplied by a single source with PURPLAN.

We make complex topics easy and comfortable for our customers. Due to our long-standing experience in developing and executing projects of this kind we know exactly our clients individual production demands and are familiar with the respective country-specific regulations and requirements.

PURPLAN combines state-of-the-art engineering with skilled craftsmanship. Our plants guarantee an efficient production.

At PURPLAN each part perfectly matches the other. Regardless of where in this world, we always rely to a high degree on pre-fabricated components. As a result the on-site installation should just be the connection of piping works to the pre-fabricated or pre-existing components.

200 
Employees worldwide

3 
Locations
(Germany, China, USA)

350 
Customers and
Partners

PURPLAN International

PURPLAN GmbH

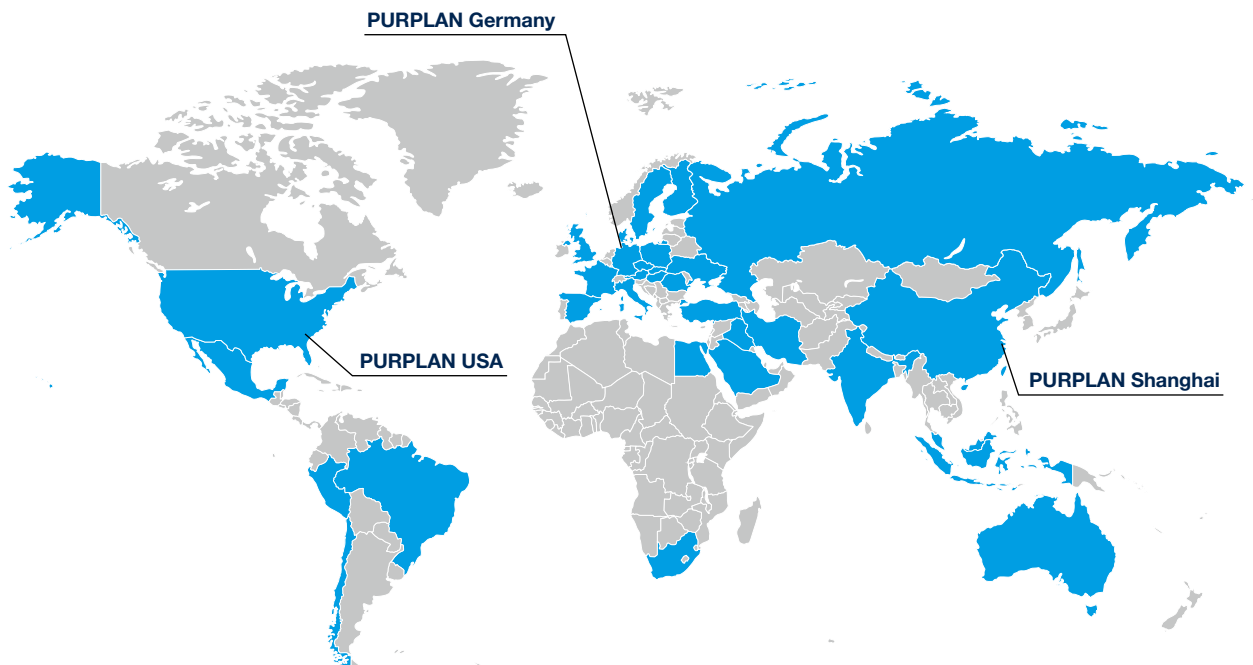
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