

SECTION 22 12 23

OIL/ WATER SEPARATOR

This section is based on the products of ACO, Inc., which is located at:

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Established in 1946, the ACO Group has been a major manufacturer of products for the construction and building industry for almost 70 years. The Group operates on a global basis and has companies in more than 40 countries with manufacturing on 4 continents. ACO employs more than 3,800 people and has sales in excess of \$850 million. ACO has been present in the USA since 1978 and has offices and manufacturing facilities nationwide.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Oil/water separator systems

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.**

- A. 22 00 00 – Plumbing

1.3 REFERENCES

**** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.**

- A. UL-2215 – Oil/Water Separators
- B. EN124 – Gully Tops and manhole tops for vehicular and pedestrian areas. Design requirements, type testing, marking, quality control.
- C. EN858 – Separator systems for light liquids (e.g. oil and petrol). Principles of product design,

1.4 SYSTEM DESCRIPTION

- A. System Type:
 - 1. Oil/water separators that allow sediments and oils to be separated out simultaneously in one tank. Separator systems available with a range of different sludge and oil capacities to suit specific site requirements.
- B. System Design:
 - 1. Tank body bodies with total capacities from 205 gallons to 427 gallons, access shafts, optional sampling shafts, ductile iron circular covers and optional alarm system.
- C. System Requirements:

**** NOTE TO SPECIFIER ** Loading - traffic type and frequency. Provide general description to allow verification of design selection; particularly important when section is written for Delegated Design by Contractor.**

- 1. Loading:

**** NOTE TO SPECIFIER ** Durability: - address liquids to be drained and surrounding environment; particularly important when section is written for Delegated Design by Contractor.**

- 2. Durability:

**** NOTE TO SPECIFIER ** User Requirements: - project specific site, user, legislative and aesthetic requirements; particularly important when section is written for Delegated Design by Contractor.**

- 3. User Requirements:

**** NOTE TO SPECIFIER ** Hydraulic Performance: - volume of liquid to be removed in a given timeframe; particularly important when section is written for Delegated Design by Contractor.**

- 4. Hydraulic Performance:

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Submit product data and installation instructions including manufacturer's product sheet, for specified products.
- C. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors, patterns and textures.
- D. Quality Assurance Submittals: Submit the following:
 - 1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
 - 2. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

**** NOTE TO SPECIFIER ** Delete if not required.**

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
- B. Installer Qualifications: Installer experienced in performing Work of this section who has specialized in installation of work similar to that required for this project.

**** NOTE TO SPECIFIER ** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.**

- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.

1. Finish areas designated by Architect.
2. Do not proceed with remaining work until workmanship is approved by Architect.
3. Refinish mock-up area as required to produce acceptable work.

1.7 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to starting work of this section.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. General: Comply with Division 01 Product Requirements Sections.
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- D. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.

1.9 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
- B. Existing sewer interruption: Do not interrupt services to facilities unless permitted under the following conditions and only after arranging to provide temporary sewer services according to requirements indicated.
 1. Notify either/or [Architect][Construction Manager] [Owner] no fewer than <number of days> days in advance of proposed interruption of services.
 2. Do not proceed with interruption of sewer services without [Architect][Construction Manager] [Owner]'s permission.

1.10 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
- B. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

1.11 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty:
 1. Warranty Period: 12 months commencing on Date of Substantial Completion or 24 months from date of purchase, whichever is sooner.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer:

1. ACO Passavant GmbH, Im Gewerbepark 11c, 36457 Stadtlengsfeld, Germany

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

**** NOTE TO SPECIFIER ** Provide system design information when the Contractor will be engineering and selecting the components, sizes and material. Delete if not required.**

2.2 SYSTEM DESIGN:

**** NOTE TO SPECIFIER ** EN124 classifies load ratings as follows:**

Load class A - Residential and light pedestrian traffic
Load class B - Sidewalks and small private parking lots
Load class C - Parking lots and general commercial areas
Load class D - Trafficked sections of roads and highways
Load class E - Industrial areas, gas stations and light commercial forklifts
Load class F - Aircraft pavements, docks, heavy fork trucks and heavy wheel loads.

- A. Load Class: Provide oil/water separator system designed, engineered and installed to support the minimum loads as defined by EN124. Load Class shall be: _____.
- B. Capacity: Provide system designed, engineered, and installed for a minimum sludge and oil capacity of _____.
- C. Performance: System will meet project requirements under both load class and capacity types.
- D. Bypass unit allowable / not allowable

2.3 Oleopator P – Oil/water separator system

- A. Product: Tank body
 1. Units: Polyethylene, single cellular, vertical tank body with coalescence unit
 - a. To be sized based on anticipated usage and flow rates to meet applicable sanitary sewer discharge limits, including municipal bylaws.
 - b. Include access ways, piping or openings to retain oil/light liquids and permit wastewater flow.
 - c. Inlet/outlet pipe size, 4 and 6 inches. Connect sewer pipe to 4 or 6 inch septic inlet/outlet pipes by means of flexible coupling
 2. NS3/450
 - a. Total capacity: 205 gallons
 - b. Volume solids trap: 119 gallons
 - c. Volume oil storage: 64 gallons
 - d. Maximum flow: 50 gpm
 - 1) Maximum flow indicated is for optimum performance – under 5mg/L hydrocarbons in effluent; higher flows can run through separator.

3. NS3/670
 - a. Total capacity: 263 gallons
 - b. Volume solids trap: 177 gallons
 - c. Volume oil storage: 64 gallons
 - d. Maximum flow: 48 gpm
 - 1) Maximum flow indicated is for optimum performance – under 5mg/L hydrocarbons in effluent; higher flows can run through separator.

4. NS3/950
 - a. Total capacity: 339 gallons
 - b. Volume solids trap: 251 gallons
 - c. Volume oil storage: 64 gallons
 - d. Maximum flow: 48 gpm
 - 1) Maximum flow indicated is for optimum performance – under 5mg/L hydrocarbons in effluent; higher flows can run through separator.

5. NS6/660
 - a. Total capacity: 257 gallons
 - b. Volume solids trap: 175 gallons
 - c. Volume oil storage: 62 gallons
 - d. Maximum flow: 95 gpm
 - 1) Maximum flow indicated is for optimum performance – under 5mg/L hydrocarbons in effluent; higher flows can run through separator.

6. NS6/1210
 - a. Total capacity: 404 gallons
 - b. Volume solids trap: 320 gallons
 - c. Volume oil storage: 62 gallons
 - d. Maximum flow: 95 gpm
 - 1) Maximum flow indicated is for optimum performance – under 5mg/L hydrocarbons in effluent; higher flows can run through separator.

7. NS10/1080
 - a. Total capacity: 427 gallons
 - b. Volume solids trap: 286 gallons
 - c. Volume oil storage: 69 gallons
 - d. Maximum flow: 160 gpm
 - 1) Maximum flow indicated is for optimum performance – under 5mg/L hydrocarbons in effluent; higher flows can run through separator.
 - a)

**** NOTE TO SPECIFIER ** Delete tank bodies not required.**

- B. Product: Extension shafts and covers
 1. Units: Polyethylene, molded shaft and ductile iron cover, concrete adapter plate
 - a. To be cut to size as required by site requirements.
 - b. 0.315 inch (8mm) minimum thickness and 32.28 inch (820mm) internal diameter, single continuous piece without joints unless approved by manufacturer.
 - c. Rubber sealed ring between tank body and extension riser as supplied (0.125 inch thick).
 - d. Maximum height 74.17" can be cut to 31.50" (includes cover).
 - e. EN124 load class A or load class D circular ductile iron covers with nonslip cover finish, gravity held in place.

 2. Load class A, pedestrian cover only

3. Load class A, pedestrian cover with short access shaft (31.50 inch overall height)
4. Load class A, pedestrian cover with long access shaft (68.11 inch overall height)
5. Load class D, heavy duty cover with adapter plate and long access shaft (74.17 inch overall height)

**** NOTE TO SPECIFIER ** Delete shafts and covers not required.**

C. Product: Sampling shaft

1. Units: Polyethylene, molded shaft and ductile iron cover
2. 17.72 inch (450mm) diameter sampling chamber - 4inch pipe with 6.3 inch (160mm) gradient
3. 17.72 inch (450mm) diameter sampling chamber - 4inch pipe with 1.18 inch (30mm) gradient
4. 17.72 inch (450mm) diameter sampling chamber - 6inch pipe with 6.3 inch (160mm) gradient
5. 17.72 inch (450mm) diameter sampling chamber - 6inch pipe with 1.18 inch (30mm) gradient
6. 17.72 inch (450mm) diameter sampling extension shaft – 3.94inch to 25.59inch (100mm to 650mm).

**** NOTE TO SPECIFIER ** Delete sample shaft if not required.**

D. Product: Alarm systems

1. Units: Alarms for oil level, sediment level, and liquid level. Alarm panel as required.
2. ACO Oilset 1000 oil alarm
3. ACO Sandset 1000 sludge alarm
4. ACO Set-2000 high level/oil alarm

**** NOTE TO SPECIFIER ** Delete alarm system if not required.**

2.4 MATERIALS

- A. Polyethylene
- B. Ductile iron

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved submittals. Install in proper relationship with adjacent construction.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION