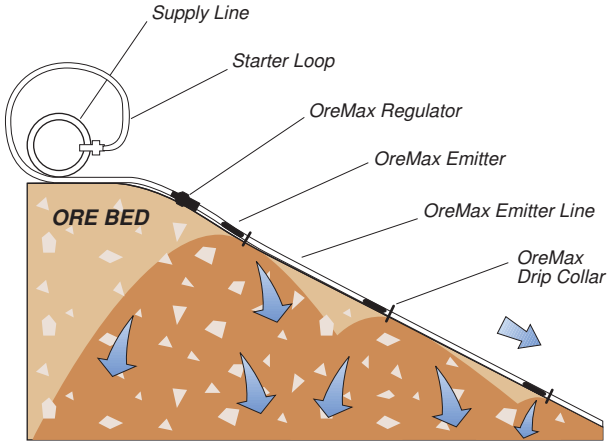
ORE MAX®

CONTROLLED PERCOLATION SYSTEMS FOR HEAP LEACH MINING

Side Slope Leaching

WADE RAIN Irrigation Systems offers Ore'Max® welded emitter line custom built for side slope applications. All lines are engineered to provide long life with maximum resistance to clogging by scale or organic material.

- Large turbulent flow emitter pathways provide outstanding flow accuracy
- Clog resistant design of emitter reduces filtration requirements
- High distribution uniformity is maintained through the life of the system to maximize leaching efficiency
- All tubing and component materials have been selected for durability and chemical resistance



OreíMax Welded Emitter Line

- .520" ID x .620" OD x .050" wall polyethylene tubing
- Ore'Max turbulent flow in-line emitter
- Emitter barbs sonic welded to tubing for maximum emitter retention. Ideal for use on side slopes where emitter line is subject to stretching combined with sustained high operating pressures (40 PSI maximum)
- Standard spacings 48"
- Exclusive drip collar pre-installed on hose so solution drips off at every emitter regardless of slope. Eliminates tendency for solution to follow hose to low point or contact point with surface.
- Ore'Max Mining Regulator pre-installed on emitter line to control operating pressure of emitters for more uniform application.
  - Accurate rolling diaphragm type pressure regulator
  - Mining specific construction components including corrosion resistant special alloy spring
  - Large passageways to minimize chances of clogging
  - Rugged heavy wall glass-filled polypropylene body for added strength and damage resistance
  - Standard regulator spacings of 100'.
- Spin-lock hose fittings to resist mining chemicals, provide strong, durable connections and long life. Used to connect regulators and for starting and ending the emitter line.
- Standard coil lengths of 300', 400', 500', 600', 700' and 800'. Custom lengths available as all Ore'Max side slope emitter line is made to order
- 10' length of plain tubing to start emitter line (to first regulator). Allows enough length to wrap mainline and position first emitter just over crest of the slope, eliminating road wetting and subsidence.
- Uphill and downhill emitter line winding. Allows emitter line to be unwound from the top of the pad or up from the bottom to speed installation
- Ordering information example:
  Contact factory for details

ORE MAX®
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U.S. Patent Nos: 5,005,864 and 5,030,279

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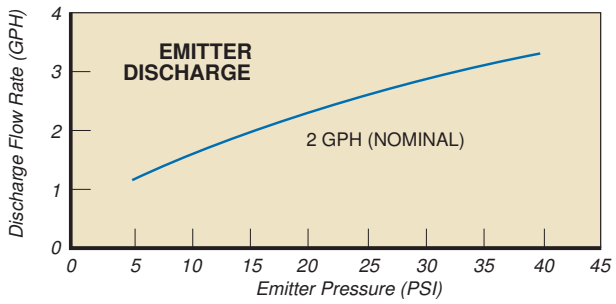
Specifications

Emitter Specifications:

Rated Flow - 2 GPH @ 14 PSI
Pressure range for ± 10% flow variation: 11 PSI - 17 PSI
Pressure range for ± 20% flow variation: 8 PSI - 20 PSI

Flow Rate vs Pressure Curve



Construction Materials

- High Density Polyethylene or Polypropylene for heavy wall emitter line.
- High Density Polyethylene For welded products.

Manufacturer's Cv

<.05

Passageway Design

Long path, fully turbulent flow large passageway
Minimum path dimension exceeds .040"

Flow Entry Configuration

360° radial non-clog design

Filtration Requirements

Variable depending on specific application. 155 mesh recommended.

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Tubing Specifications

WADE RAIN Irrigation Systems utilizes the finest polyethylene resins available for the production of Ore'Max Emitter Line.

Material

Tubing shall fall within the specification outlined in ASTM D1248 for a Type 1, Class C, Category 4, P14 Polyethylene and to ASTM D3350 for PE12111C. More specifically, materials shall equal or exceed Union Carbide G-Resin 7510 Natural 5 linear low density polyethylene blended with Union Carbide DFDN-0092 carbon black master batch to produce an optimum carbon content of between 2 and 3 percent by weight of 25 millimicron particle size.

Processing

Carbon content test will be run according to ASTM Standard D1603-76 to determine that the proper percentage of carbon content is being maintained. Tests will be conducted to determine mixing and dispersion for maintaining optimum resistance to UV degradation.

Environmental Stress Crack Resistance

Tubing shall be tested for resistance to environmental stress cracking according to the standards and procedures outlined in ASAE S435.

Dimensional Tolerances

±.003: on all published dimensions.

Engineering Data

Application Flow Rate, GPM/Square Foot:
(2 GPH Emitter ÷ 60) x (emitter spacing' x emitter line spacing')

Example:

2 GPH emitter, 24" emitter spacing, 36" line spacing
(2 ÷ 60) ÷ ((24 ÷ 12) x (36 ÷ 12)) = .0055 GPM/Square Foot

Emitter Line Pressure Loss