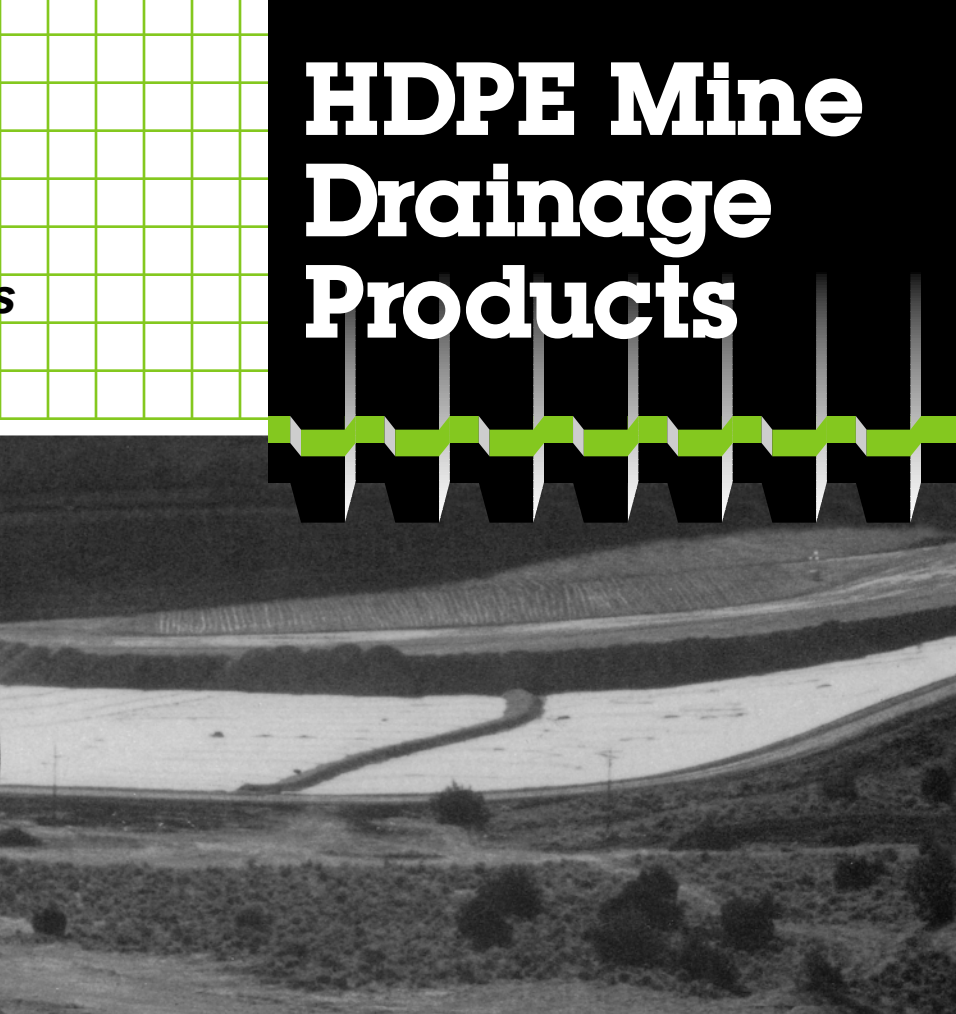


- *Heap Leaching*
- *Culverts*
- *Earth Fill Dams*
- *Sedimentation Ponds*
- *Hollow Fills*

# HDPE Mine Drainage Products



Corrugated polyethylene pipe manufactured by ADS from high density polyethylene (HDPE) has been proven in demanding underground drainage applications for more than 30 years. Billions of feet have been installed throughout the world. Polyethylene's outstanding performance history, life-cycle cost, and unique physical properties make it the ideal drainage material for mining industry.

- **Resists abrasion.** Tough and durable HDPE material handles harsh slurries and abrasive flows.<sup>1</sup>
- **Will not corrode.** Virtually chemically inert, HDPE withstands solvents, acids and alkalis (with acceptable pH ranges from 1 to 14).<sup>2</sup>
- **Structural integrity.** ADS pipe is used for culverts and cross-drains under highways, railroads, and airport runways. With proper backfill, ADS pipe performs well with as little as one foot of cover under live loads, and with hundreds of feet of ore above it.
- **Easy to install.** Lightweight, rugged polyethylene requires far less time, equipment, and labor to install than conventional drainage pipe.<sup>3</sup>

## TECHNICAL REFERENCES

- <sup>1</sup> See ADS Tech Note 2.116, "Abrasion Resistance of Piping Systems".
- <sup>2</sup> See ADS Tech Note 2.108, "Chemical Resistance Properties of Corrugated Polyethylene Pipe, Fittings, and Manholes".
- <sup>3</sup> See ADS Product Note 3.115, "Installing N-12® Storm, Sanitary Sewer, and Culvert Pipe".

## APPLICABLE SPECIFICATIONS

- **ASTM F 405**, Standard Specification for Corrugated Polyethylene (PE) Tubing and Fittings
- **ASTM F 667**, Standard Specification for Large Diameter Corrugated Polyethylene Tubing and Fittings
- **AASHTO M 252**, Corrugated Polyethylene Drainage Tubing
- **AASHTO M 294**, Corrugated Polyethylene Pipe, 12 to 36 in. (300 to 900mm) Diameter
- **ASTM D 2321**, Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications

# Typical Mining Applications

## Heap Leaching

This technique has made it possible to reduce the cost of producing copper, gold and silver from low grade deposits. SX-EW recovery following acid leaching has been the fastest growing sector of new copper production. It can also have a huge impact on overall economics when used in conjunction with a conventional mill. To heap leach gold and silver, weak cyanide solutions are irrigated on top of the heaps and precious metals are recovered using carbon adsorption or zinc precipitation.

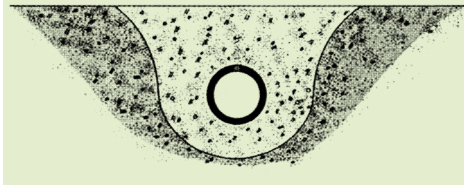
ADS perforated collector pipe is laid at intervals over leaching pad.



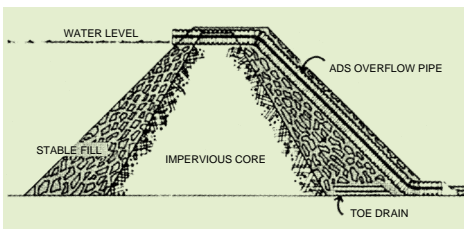
Crushed aggregate is piled over the pad. Sprinklers saturate the ore with cyanide solution to convert minerals to a chemical compound. Solution enters perforated pipe and is carried by gravity to open ponds for final extraction of gold and silver.



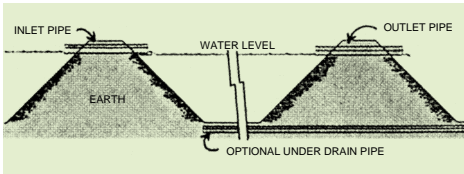
## Culverts



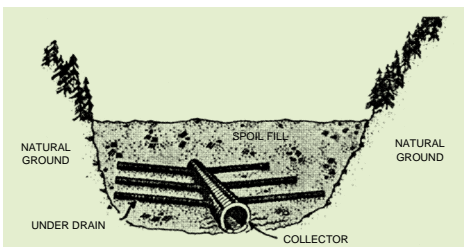
## Earth Fill Dams



## Sedimentation Ponds



## Hollow Fills



# ADS Product Selection

## N-12® dual wall smooth interior pipe

4" through 48" (100 - 1200mm) diameters, solid or perforated. Watertight fittings and couplings available in most sizes (see ADS Form # 10244).



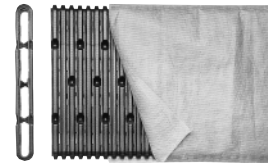
## Single wall corrugated interior pipe

3" through 24" (75 - 600mm) diameters, solid or perforated. Fittings and couplings offered in all sized (see ADS Form # 10222).



## AdvanEDGE®

Perforated panel shape pipe in 12" and 18" (300 and 450mm) heights. Fast drainage response, easy installation in narrow trenches. Couplings and adaptors available (see ADS Form # 10216).



## Synthetic wrap

Surrounds pipe to screen out sands and coarse silt. Drain Guard® is a nylon protective wrap, and ADS Sock is a seamless machine-knit polyester envelope for more rugged applications (see ADS Product Note 3.102).



## Geotextile products

Woven and non-woven fabrics constructed of durable, chemical-resistant polypropylene (see ADS Form # 10384).



# Experience and performance in mine drainage

ADS products are currently in use in mines throughout the world. For product information and application assistance, call the recognized leader in HDPE drainage systems at 1-800-821-6710.



ADVANCED DRAINAGE SYSTEMS, INC.  
4640 TRUEMAN BLVD.  
HILLIARD, OH 43026