EPEC SYSTEM
STABILIZED CONCRETE REVETMENT SYSTEM

EXTREME
PERFORMANCE
EROSION
CONTROL

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The 3D load transfer platform installed in the stone drainage layer of the EPEC system (the cellular confinement layer) is a game changer in improved system performance and resistance against hydraulic jump.

**APPLICATIONS:**
- Dam overtopping
- Auxiliary spillways
- Levees
- Diversion berms

**TESTING & DESIGN**
Through trial and testing, it has been shown that stabilizing the stone under ACBs leads to dramatic improvements in hydraulic jump stability with 2.5 - 3x better hydraulic performance when compared to systems with unstabilized stone.

The system meets all requirements of the NEH Part 628 Dans Chapter 54 ACB Armored Spillways design document, as it has been tested to ASTM 7276 and 7277 Standards as well as having undergone Hydraulic Jump Performance Testing on a 2:1 slope.

**TESTING RESULTS**
When testing results were compared to similar systems with unconfined drainage layers, EPEC showed the following improvements:
- 250% performance improvement in Factor of Safety (FOS) on a 3:1 slope
- 366% performance improvement in hydraulic jump stability on a 2:1 slope

**WHY EPEC SYSTEM?**
- Eliminates ACB movement
- Greatly improves system performance and reliability
- Only a marginal increase in cost for a more effective system
- Better protects against hydraulic jump
- Easier install as stone is stabilized (won’t get displaced)
- Enhanced quality assurance - guaranteed stone thickness

**WHAT IS EPEC SYSTEM?**
EPEC is a patented multi-layer revetment system used to reinforce and protect a surface exposed to possible high water velocities, wave attack and/or potential hydraulic jump from super critical flows. The system includes both a cellular confinement layer and an articulated block layer. Each of these layers are separately known and deployed in various environmental applications. Here, they are deployed together to provide enhanced protection of a ground surface.

- **Cellular confinement layer:** this layer is placed on the ground surface and is a matrix of open cells with rigid walls that are designed to be filled with aggregate or sand.
- **Block layer:** this layer is mounted on top of the cellular confinement layer and includes a mat of blocks connected by cables.
- **Optional geosynthetic layers:** if desired, these may be mounted under the cellular confinement layer on top of the ground surface as well as in between the block layer and cellular confinement layer.

**WHY IS IT IMPORTANT TO STABILIZE THE SYSTEM?**
When the stone layer is fluidized and moved, the ACB blocks can become vertically displaced which causes the cables to engage, restraining the blocks.

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