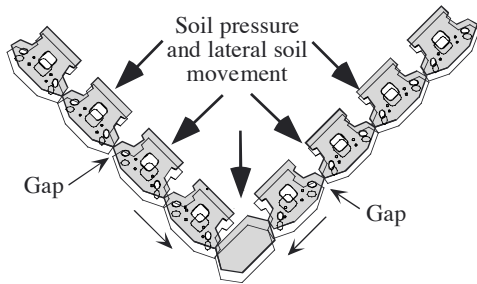
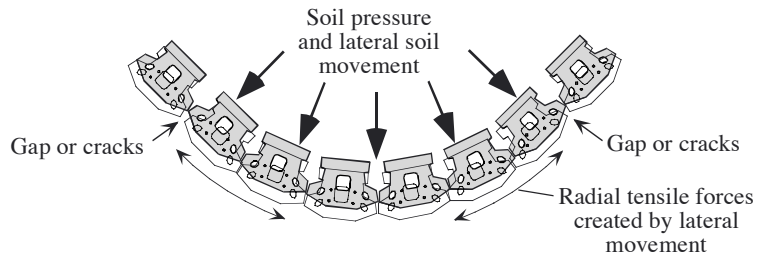


Unit Cracking/Gapping - Corners/Bends

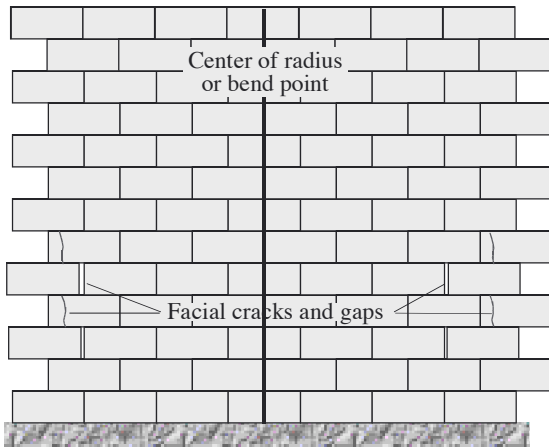
Keystone modular retaining wall structures can tolerate a certain amount of movement due to the flexible nature of the system and small individual unit size. When corners and tight curves are inserted into an otherwise two dimensional system, a third direction of movement can occur which can cause unit cracking or gapping.



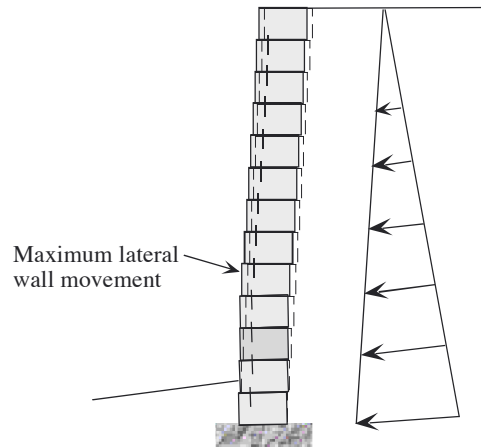
Wall Corner



Wall Radius



Wall Elevation



Wall Section

Gapping and cracking noted in these situations usually occurs in taller walls with lesser quality backfill and/or poor compaction. The wall backfill strains and deforms laterally under increasing earth fill load resulting in outward facing movement in the bottom third of the wall height. This is typically not a noticeable problem in straight walls but at corner or bends the movement is magnified and can create the gapping and cracking noted due to the buildup of radial tensile forces along the wall face.

Solution: Use high quality granular fill in tight radius or bend areas in taller walls. Backfill entire zone with 3/4" stone to minimize lateral wall movement.

**Wall Translation Potential
Active Earth Pressure Theory**

| Soil Type and Condition | % of Height |
|-------------------------|-------------|
| Cohesionless, dense | 0.1 to 0.2 |
| Cohesionless, loose | 0.2 to 0.4 |
| Cohesive, firm | 1.0 to 2.0 |
| Cohesive, soft | 2.0 to 5.0 |