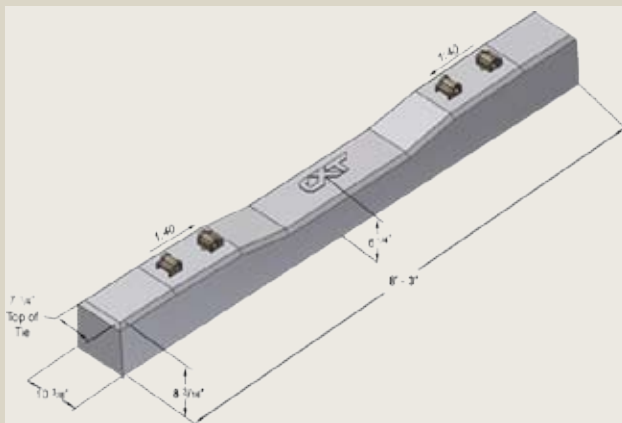


The 419-22 concrete tie is a high performance, cost effective alternative for low density mainline, transit systems and industrial track construction. The cost to build new track with concrete ties is very competitive with wood tie track, with lower installation cost, improved performance and substantially reduced maintenance costs.



419-22 Tie Specifications

- **Elastic Fastener System:** e-Clip
- **Design Weight:** 610 lbs
- **Length:** 8' 3"
- **Flexural Strength:**
 - Railseat positive 277 in-kips
 - Center negative 152 in-kips
- **Tie Spacing:** Meets AREMA structural performance criteria for tie spacing from 24" to 30" on center
- **Concrete:** 7,000 psi minimum 28 day compressive strength with air entrainment
- **Pad:** 6.5mm pad
- **Rail Seat Cant:** 1:40
- **Rail Section:** 136 lb rail or other 6" base rail sections



The 419-22 tie is designed for use with e-Clip fastening components. These components are chosen for their performance, cost and ease of installation.

Life Cycle Cost Savings

Easier installation, fewer required ties per track mile, greater life expectancy and reduced maintenance equals substantial life cycle cost savings.



Industrial ties on low density mainline track



Efficient installation using hydraulic clamp

Proven Performance

CXT Concrete Ties has successfully supplied over 14 million concrete ties to the North American market.



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Spokane, Washington Facility

Benefits

- **Ease of Installation:** Our concrete ties, with a pre-set gauge, can be installed at rates of up to 1,200 ties per day.
- **Greater Efficiency:** Fewer concrete ties per track mile are required versus timber or other types of ties.
- **Greater Life Expectancy:** Concrete ties outlast other types of ties.
- **Reduced Maintenance:** Stiffer foundation for the entire track system will reduce required lining and surfacing maintenance and provides accurate track gauge.
- **Greater Fuel Economy:** Less friction and stiffer track structure allow rolling stock to move with less resistance, providing less fuel consumption.
- **Environmentally Safe:** Concrete ties contain no hazardous chemicals to harm the environment.
- **Excellent Gauge Holding:** Elastic fastening system increases resistance to longitudinal rail movement developed by thermal stress and traffic loads.
- **Safety:** Limited lateral and longitudinal movement of rail reduces derailments and minimizes derailment damage.