

## **UofL, Physical Plant – Tunnel Top Load Rating**

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STRUCTURAL DESIGN LOAD RATING OF UOFL BELKNAP CAMPUS 8-INCH-THICK REINFORCED TUNNEL TOPS WITH REINFORCEMENT CALCULATES OUT TO A DESIGN LOAD OF 7.5 TONS PER AXLE LOAD. THIS SHOULD ACCOMMODATE MOST HIGHWAY RATED VEHICLES.

RECOMMENDATIONS INCLUDE:

1. VERIFY THE AXLE RATING OF QUESTIONABLE VEHICLE.
2. PROVIDE 1-INCH THICK, 10FT X 4FT PLATE OVER THE TUNNEL IF VEHICLE RATING EXCEEDS 7.5 AXLE.
3. IF RATING IS ACCEPTABLE, DRIVE SLOWLY ACROSS TUNNEL AS NECESSARY.
4. DO NOT PARK VEHICLE DIRECTLY ON THE TUNNEL TOP.
5. OUTRIGGERS & STABILIZERS OF CRANES SHOULD NOT BE PLACED ON TUNNEL TOP.
6. REQUEST A TUNNEL PLAN FOR AREA OF WORK / CONSTRUCTION.

### **FOR REFERENCE ONLY:**

- A 10 YARD CEMENT TRUCK-FULL OF CONCRETE WEIGHS 26,000 POUNDS.
- $7.5 \text{ TONS} \times 2,000 \text{ LBS/TON} = 15,000 \text{ LBS PER AXLE}$ .
- $26,000 \text{ LBS DIVIDED BY } 3 \text{ AXLES CONCRETE TRUCK} = 8,665 \text{ LBS. PER AXLE}$ .
- TUNNEL WIDTH VARIES BETWEEN 7 FT TO 8 FT WIDE. TUNNEL TOPS ARE MOSTLY 8 INCHES THICK BUT SOME TUNNELS ARE 12-INCHES.
- TUNNELS IN GRADE AREA, THE TOP OF THE TUNNEL MAY BE LESS THAN 4FT.

**IF IN DOUBT, PLATE OVER THE TUNNEL.**