### **Step 1: Define Dimensions and Assumptions**

1. **Height of the Wall just above the opening: {d3} m**
2. **Wall Thickness : {tiefe} m**
3. **Floor-to-Floor Height :** {wandHoehe} m
4. **Slab Thickness :** {\_deckentiefe} m
5. **Slab Length :** {t1} m and {t2} m
6. **Roof Thickness :** {\_deckentiefe} m
7. **Wall Density :** {density} kN/m3
8. **Slab Density :** {density} kN/m3
9. **Number of Floors above the opening (n) :** {stories}
10. **Load factor for Wall plastering**: is defined as 0.25kN/m2 for one-sided plastering and 0.5kN/m2 for two-sided plastering
11. **Load factor for Floor Tiles**: is defined as 1.0kN/m2 for residential building
12. **Deadload Factor for Roof**: is defined as 2.0kN/m2 for RCC flat roof
13. **Liveload for Floor**: is defined as 2.0kN/m2
14. **Liveload for Roof**: is defined as 1.5kN/m2 for RCC flat roof

**Step 2: Calculate Wall Load**

* **Volume (v) = 1m x height x thickness**
* **Wall load per unit length (wl) = Volume x Density**
* **Load from plastering (wp) = height x load factor**

**Total load from walls = (wl + wp) x no-of floors + (load from the wall just above the opening)**

**= {totalWallLoad} kN/m**

**Step 3: Calculate Slab Load**

* **Volume (v) = 1m x length/2 x thickness**
* **Slab load per unit length (wl) = Volume x Density**
* **Load from floor tiles (wt) = length/2 x load factor**

**Total load from slab = (wl + wt) x no-of slabs**

**= {slabsFromAboveFloors} kn/m**

**Step 4: Calculate Roof Load**

* **Volume (v) = 1m x length/2 x thickness**
* **Roof load per unit length (wl) = Volume x Density**

**Total load from roof = (Roof load per unit length) x no-of roofs**

**= {roofSelfWeight} kN/m**

**Total Deadload from slabs, walls, and floor = {totalDeadLoad} kN/m**

**Step 5: Calculate Live Load**

* **Liveload = Areaload x slab-length/2**

**Total load from slab = (Liveload per slab) x no-of roofs + Liveload for the roof**

**= {totalLiveload} kN/m**

**Total Liveload from slabs, and Roof = {totalLiveload} kN/m**