

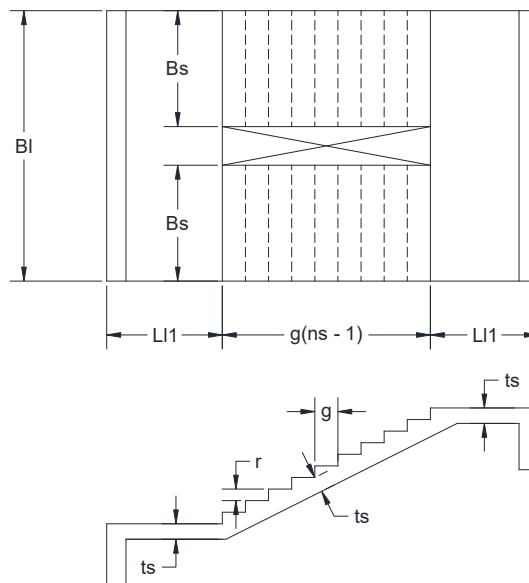


الأكاديمية العربية للعلوم والتكنولوجيا والنقل البحري
Arab Academy for Science, Technology & Maritime Transport

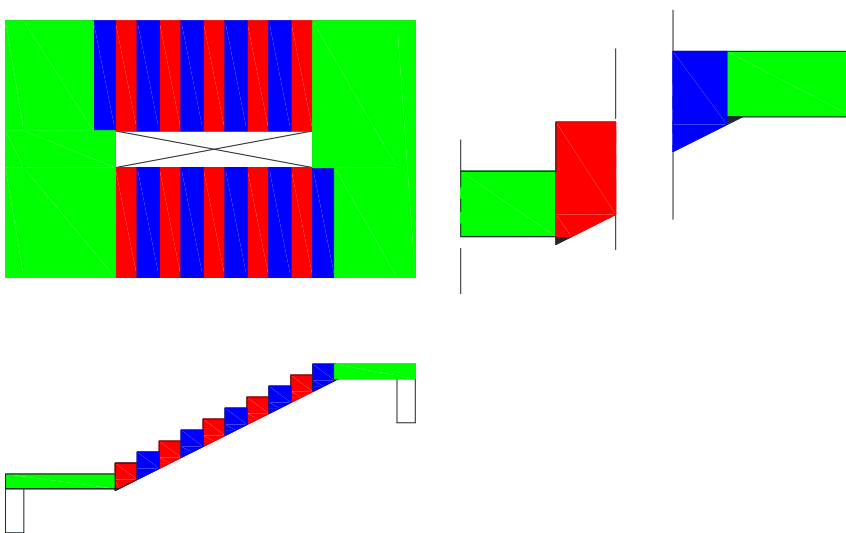
Quantity Surveying of R.C. Stairs

Dr. Karim Helmi

R.C. Slab type stairs



Q.S. of Slab type stairs

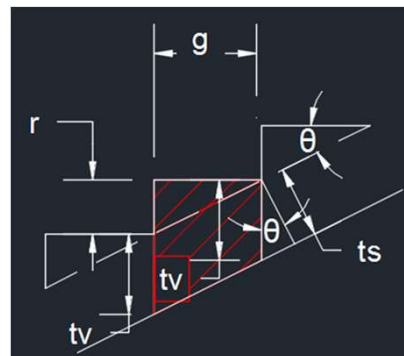


Q.S. of Steps

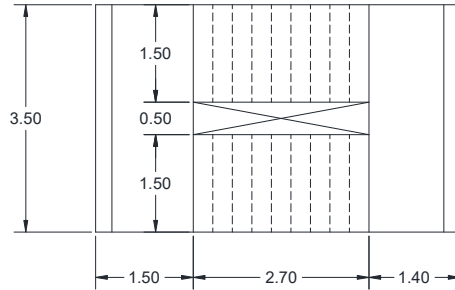
$$tv = \frac{ts}{\cos\theta}$$

$$\theta = \tan^{-1} \frac{r}{g}$$

$$A_{step} = \frac{tv + (tv + r)}{2} g = \left(tv + \frac{r}{2} \right) g$$



Example



Stair thickness = 22 cm
 Floor height = 3.0 m

$$\theta = \tan^{-1} \frac{0.15}{0.3} = 26.565^\circ$$

$$tv = \frac{0.22}{\cos \theta} = 0.246 \text{ m}$$

$$A_{step} = \left(tv + \frac{r}{2} \right) g = \left(0.246 + \frac{0.15}{2} \right) 0.30$$

Item	Description	No.	L	W	H	Add	Deduct	Total
Stairs	Floor landing	1	3.50	1.50	0.22	1.155		
	Mid floor landing	1	3.50	1.40	0.22	1.078		
	Steps	20	1.50	0.30	0.321	2.889		
	Steps landing intersection	2	1.50	0.30	0.22		0.198	
								4.924