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HEIGHT (above grade): 10 ft. **ROOF TYPE:** GROUND

Remove loose material from the area where the mount is to be placed.

-Exposure Level: **C**

-Antenna Information:

Mfg.: PRODELIN **Dia.:** 3 m **Antenna Weight:** 400 lbs. **Mast Weight:** 70 lbs.

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The client requesting this ballast calculation, based on the ASCE 7-02code, should have a local engineer verify that the appropriate factors were used determine velocity pressure(q_z)

**** **** **** **** ****

-Wind Force:

Wind forces in this calculation are based on ASCE 7-02 @ 90 mph

.00256 x Velocity pressure coeff. x topographic factor x Wind Velocity^2 x Importance factor = Velocity Pressure(psf)

.00256 x 0.85 x 1.00 x 90^2 x 1.0 = **17.6 psf**

Velocity pressure x Gust response factor x Shape factor x Area(ft.^{2}) = Design wind force (lbs.)

17.6 psf x 0.85 x 1.2 x 76.1 sq.ft. = **1366 lbs. wind load**

-Untethered: (calculation determines the amount of ballast weight required to prevent sliding.)

Design wind force / friction coefficient x safety factor -(mount weight + antenna weight) = Required Ballast(lbs.)

(1366 lbs. / 0.50) x 1.25 - 1000 lbs. = **2415 lbs. Required Ballast**

(weight of required ballast + mount + antenna) / mount area = Roof Load (psf)

3415 lbs. / 245.0 sq.ft. = **13.9 psf**

MOUNTING SYSTEM: **PL-2** **4' X 6' Ballast Trays**

-Tethered (with three cables at 120 degrees spacing to prevent sliding):

Note: (If the tethered ballast required is greater than the untethered ballast required, the tethered ballast required should be used, however in this case the tethers would not be required to prevent sliding.)

Overturning moment x safety factor = Resisting Moment

*Wind load x safety factor x height to antenna centerline = (1/2 base width) * (antenna weight +mount weight +ballast weight)*

Wind load x safety factor x height to antenna centerline / (1/2 base width)-(weight of antenna&mount)=Req'd ballast (lbs.)

1366 lbs. x 1.50 x 5.5 ' / 7.8 ' - 1000 lbs. = **445 lbs. Required Ballast**

(Weight of required ballast + mount + antenna) / Mount area = Roof Load(psf)

1445 lbs. / 245.0 sq.ft. = **5.9 psf**

MOUNTING SYSTEM: **PL-2** **4' X 6' Ballast Trays**

See our enginnering page: http://www.SatelliteDish.com/page82.htm

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