DESCRIPTION										
P13162		**BEAM C**								
BEAM SPAN L (m)	.=	2.50	SPAN TO BRG CENTRES Le(m) =			2.70				
		Inertia	MASS	Shear A	Pxx	Ry	x	u	D	
		x10^6mm"	kg/m	mm2	cm3	cm			mm	
152x89x16		8.38	16.00	701.0	124.0	2.100	19.5	0.889	152.4	
YOUNGS MOD. E (N/mm2 x 1000)	.=	205.00								
					UDL	UD/PTL	PTL		total	
FACTORED DEAD LOAD KN	.=	18.10			6.67		11.43	.=	18.10	
FACTORED LIVE LOAD kN	.=	14.55			14.55			.=	14.55	
FACTORED SELF WEIGHT kN	.=	0.56			0.56	0.00	0.00	.=	0.56	
TOTAL DESIGN LOAD W kN	.=	33.21			21.78	0.00	11.43	.=	33.21	
LOAD TYPE (UDL, UD/PTL, PTL)										
BENDING MOMENT COEFFICIENT					0.1250	0.1667	0.2500			
BENDING MOMENT FOR EACH LOAD TYPE kNm	.=	W(kN) x Span x Bm coeff.			7.35	0.00	7.72	.=	15.07	
PLASTIC MODULUS FOR EACH LOAD TYPE cm3	.=	Bm / Sx			26.73	0.00	28.06	.=	54.79	
DESIGN DEFLECTION FOR LOAD TYPE										
constant x (WxL^3)/(E x I) (mm)					2.6	0.0	2.2	.=	4.76	
deflection using imposed (live) load					1.7	0.0	0.0		1.72	
allowable deflection with brittle finishes is L/360 and L/200 other finishes					ALLOWABLE DEF L / 360			.=	6.94	

SHEAR AREA SELECTED BEAM (mm2)	.=	701
PERM SHEAR STRENGTH = 0.6x275 (N/mm2)	.=	165.00
SHEAR FORCE = W/2 (kN)	.=	16.605
AVE. SHEAR STRESS (N/sqmm)	.=	23.688
BEAM RESTRAINT CHECK		
slenderness V from Table 19	.=	0.700
lamLT = U x V x lamda x Bw^-2	.=	97.932
Bending Strength from Table 16. Pb (N/mm2)	.=	125.0
Moment Capacity = Pb x Sx (kNm)	.=	15.5
Buckling Resistance = Mom.Cap. / mLT (kNm)	.=	**16.757**

Le = (1.2x span) + (2 x D)

lamda=Le/Ry	157.37	mLT =	0.925
lamda / x =	8.07	Bw =	1.00

more than design bending moment **15.07** kNm thus section OK