ETSAM — Departamento Estructuras Edificación

CURSO 2009–2010 SEMESTRE DE OTOÑO PROBLEMAS 13

480. DIMENSIONADO

Nº EXP. ☐☐☐☐☐ Z Y X

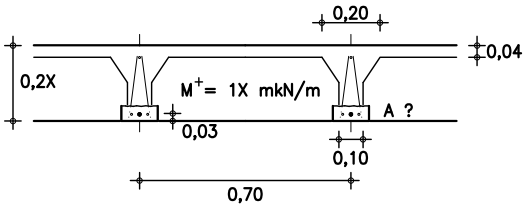
APELLIDOS: _____

NOMBRE: _____ (firma)

HORMIGON HA25 Compresión segura distribución rectangular: 12 N/mm^2 = 1,2 kN/cm^2
HORMIGON PRECOMPRIMIDO HA40 Compresión segura distribución rectangular: 14 N/mm^2 = 1,4 kN/cm^2
ACERO DE ARMAR B500 Tensión segura: 310 N/mm^2 = 31 kN/cm^2
ACERO DE PRETENSAR Tensión segura: 600 N/mm^2 = 60 kN/cm^2
ACERO LAMINADO A44/S275/Fe430 Tensión segura: 180 N/mm^2 = 18 kN/cm^2

Longitudes, en metros con DOS decimales. Resto SIN decimales

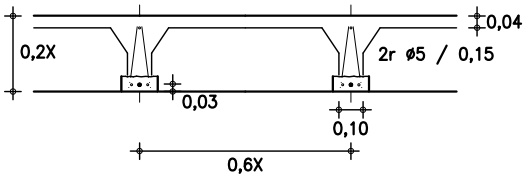
1



A ?

☐ 2ø6 + nø

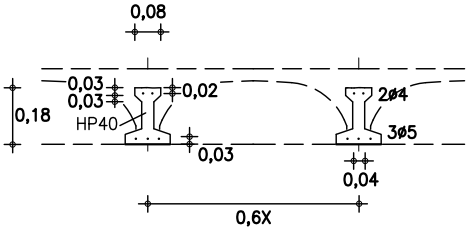
2



V ?

☐ kN/m

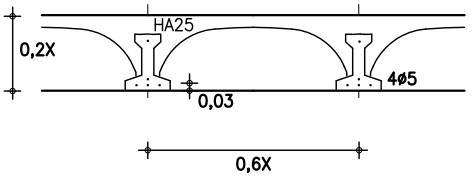
3



M+ ?

☐ mkN/m

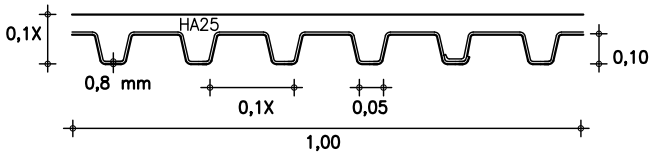
4



M+ ?

☐ mkN/m

5

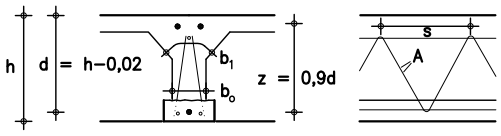


M+ ?

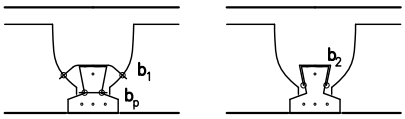
☐ mkN/m

COMPROBACION A CORTANTE

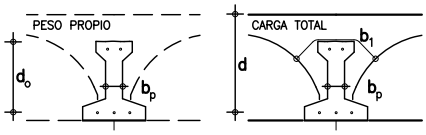
VIGUETAS ARMADAS HA25
con celosía B500



VIGUETAS HORMIGON HP40
con armadura pretensada



Forjado sanitario
en dos fases



$V < 2b_1\, df_v$

$V < b_o\, df_v + 1{,}4Af_s\, z/s$

$f_s = 31$ kN/cm²

$f_v = 0{,}03$ kN/cm²

$V < 2b_1\, df_v$

$V < 2b_p\, df_p$

$V < 1{,}2b_2\, df_v$

$f_p = 0{,}05$ kN/cm²

$V_o < 2\ b_p\, d_o\, f_p$

$V < 2\ b_p\, df_p$

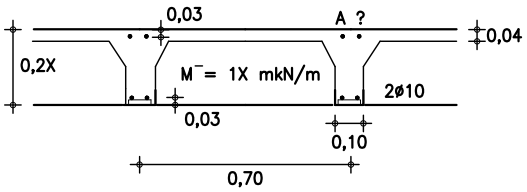
$V < 2b_1\, df_v$

	h	0,24	0,26	0,28	0,30	0,32
2ø4/0,20						
b_o	0,08	11	12	14	15	17
	0,10	13	14	16	17	18
b_1	0,10	13	14	16	17	18
	0,12	16	17	19	20	22
b_p	0,05	11	12	13	14	15
	0,06	13	14	16	17	18
b_2	0,14	11	12	13	14	15
	0,16	12	14	15	16	17

V (kN) por nervio

Longitudes, en metros con DOS decimales. Resto SIN decimales

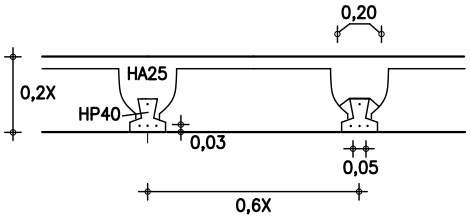
6



A ?

n ø

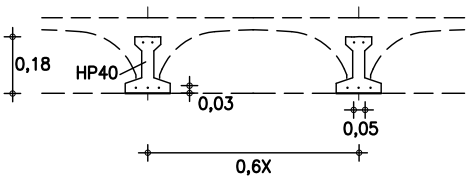
7



V ?

kN/m

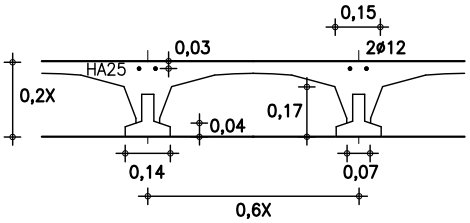
8



V ?

kN/m

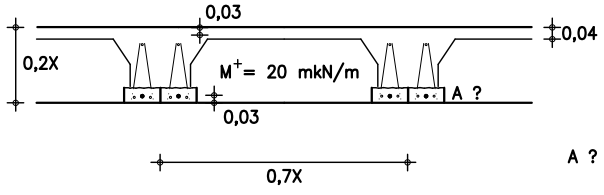
9



M⁻ ?

mkN/m

10



A ?

2 (2ø6 + n ø)