

Etude et Dimensionnement de Structure
Béton Armé, Bâtiment et Génie Civil

SIEGE SOCIAL

2 Allée du Parmelan - ZA de la Bouvarde
74370 Epagny-Metz-Tessy
Téléphone : 04.50.10.69.44 / mail : eds74@bureau-eds.fr
site internet: www.eds-beton-arme.com

AGENCE AUVERGNE

La Pardieu - 1 Rue Patrick Depailler
63000 Clermont Ferrand
Téléphone : 04.73.28.30.01
mail : eds63@bureau-eds.fr

AGENCE AQUITAINE

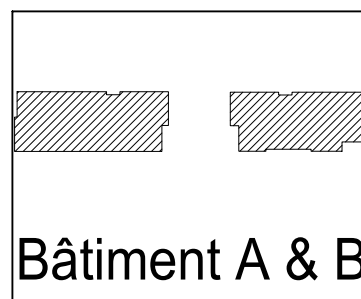
5 Rue Gambetta
33290 BLANQUEFORT
Téléphone : 05.57.65.18.22
mail : eds33@bureau-eds.fr

Plan n° : 200

Dossier : DCE

Dessiné par :
S. VITTOZ

L'APARTE
39 Logements
74 - Thonon Les Bains



Cahier de détails

Maitre d'Ouvrage : SCCV L'APARTE

74 - Douvaine

Tel : 04.50.85.02.40

Bureau de controle : APAVE

74 - Metz Tessy

Tel : 04.50.74.39.05

Architecte : Cheysson Architecte

74 - Thonon les Bains

Tel : 04.50.26.67.69

Entreprise :

MODIFICATIONS

Indice	Date	Objet
-	01/04/21	1 ère diffusion
A		
B		
C		
D		

L'APARTE

39 Logements

74 Thonon Les Bains

Habitat collectif Batiments A & B



Les modifications structurelles apportées aux plans architecte sont indiquées sur les plans d'ensemble par des nuages



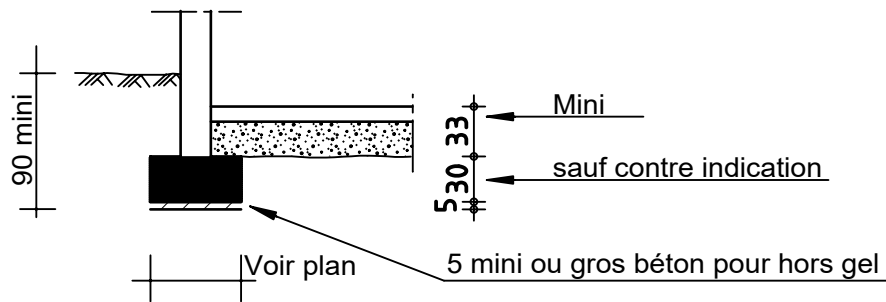
1 - HYPOTHESES DE CALCULS

- Nuance d'aciers : T.S. et H.A. : FeE 500
- Résistance du béton : $F_c 28 = 25 \text{ MPa}$
- Application des règles parasismiques EC8 . Zone 4 . Catégorie II
- Charges d' exploitation des dalles : voir plan d'ensemble
- Charges permanentes sur dalles : voir plan d'ensemble
- Coupe feu 1 heure par la structure, prévoir complément si besoin

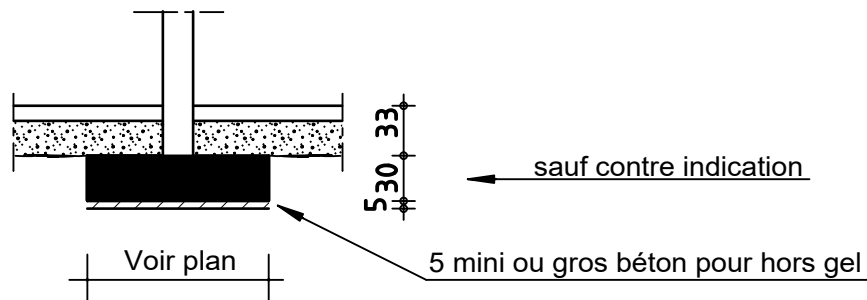
2 - FONDATIONS

- Taux de travail du sol = 6 Bars à l'E.L.S. suivant rapport géotechnique IMOGEO du 19 Octobre 2020
- Encastrement mini dans le bon sol 30 cm (dans les graves sableuses compactes) avec traversée des couches altérées par rattrapage en gros béton.
- Mise hors gel mini à -0.90 du sol extérieur fini du projet .
- Fondations coulées en pleine fouilles.
- Empierrement sous dallage 20cm mini

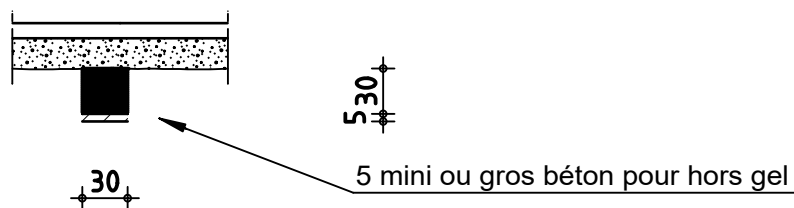
SEMELLES FILANTES : H.A. = 80 Kg / m³



MASSIFS ISOLES : H.A. = 90 Kg / m³



TIRANTS T : H.A. = 60 Kg / m³

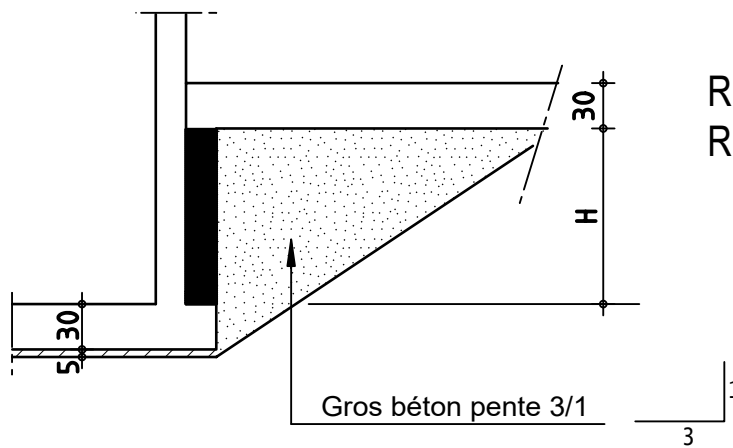


DALLAGE :

- Epaisseur 13 cm . T.S = 3 Kg/m² non compris aciers de calage
- Prévoir désolidarisation à la structure par polyane
- Prévoir joints sciés tous les 25 m² (diagonale maxi = 7m)

VH BÂTIMENT B : H.A = 8 Kg / m²
T.S = 8 Kg / m²

REDANS R : H.A. = 150 Kg / m³



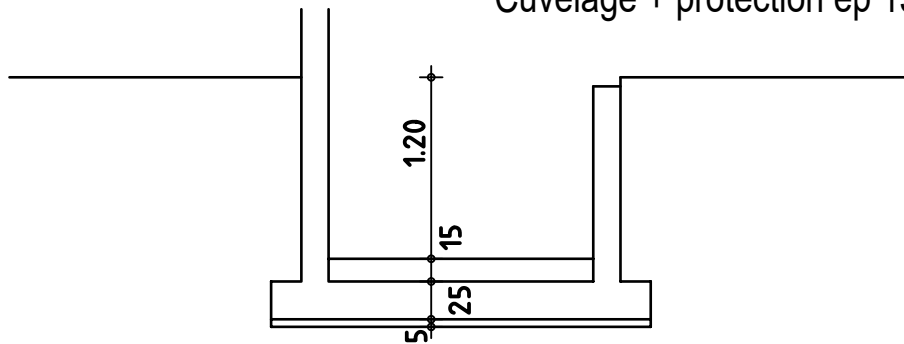
REDAN R1 H = 72 cm
REDAN R2 H = 373 cm

FOSSE ASCENSEUR

Radier ep 25 cm HA + TS = 15 kg/m²

Murs TS = 6 kg/m² + HA liaison de murs

Cuvelage + protection ep 15 cm



3 - ELEMENTS VERTICAUX

3.1 - MURS ARMES : Murs béton armé

3.1.1 - MURS DU SOUS SOL :

Murs extérieurs enterrés sur 2 niveaux : T.S. = 10 Kg/m²

Murs 1 (enterrés sur 2 niveaux) : T.S. = 13.5 Kg/m²

Murs 2 (enterrés sur 2 niveaux) : T.S. = 12 Kg/m²

Murs intérieurs : T.S. = 5.6 Kg/m²

3.1.2 - MURS DU REZ ET DES ETAGES :

Murs extérieurs : T.S. = 2.8 Kg/m²

Murs intérieurs : T.S. = 5.6 Kg/m²

3.2 - POUTRE VOILE V :

H.A. = 8 Kg/m²

T.S. = 8 Kg/m²

NOTA : Dv=Départ de Voile (compté dans voile)

3.3 - PILIERS B.A. : (Noircis sur les plans)

Isolés : H.A. = 180 Kg/m³

Incorporés dans les murs : H.A. = 140 Kg/m³

En about de mur : H.A. = 180Kg/m³

3.4 - RENFORTS D'ANGLES & ABOUTS DE MURS SANS PILIERS :

voir schéma {

(1)	Sous-Sol / Rez / Attique et sous attique : H.A. = 8 Kg/ml	} y compris attentes industrielles
(2)	Etages courants : H.A. = 6 Kg/ml	

3.5 - RENFORTS D'OUVERTURES TOUS NIVEAUX : (Portes, portes fenêtres et fenêtres)

H.A. = 5.8 Kg/ml

3.6 - CHAINAGES HORIZONTAUX :

3.6.1 - CHAINAGES TOUS NIVEAUX : (Liaison dalle / mur, sous pannes)

H.A. = 4,5 Kg/ml

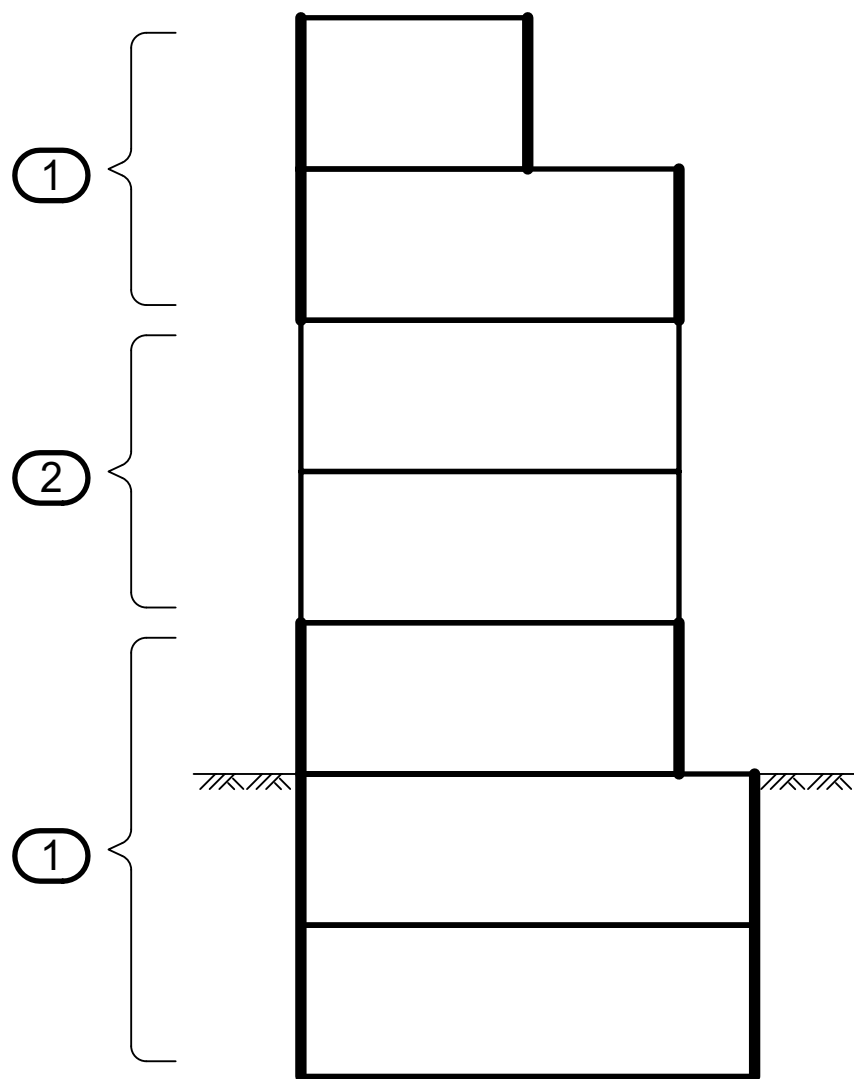
3.6.2 - CHAINAGES EN RIVE DE BALCON : H.A. = 3 Kg/ml

3.7 - EMPOCHEMENTS HORIZONTEAUX :

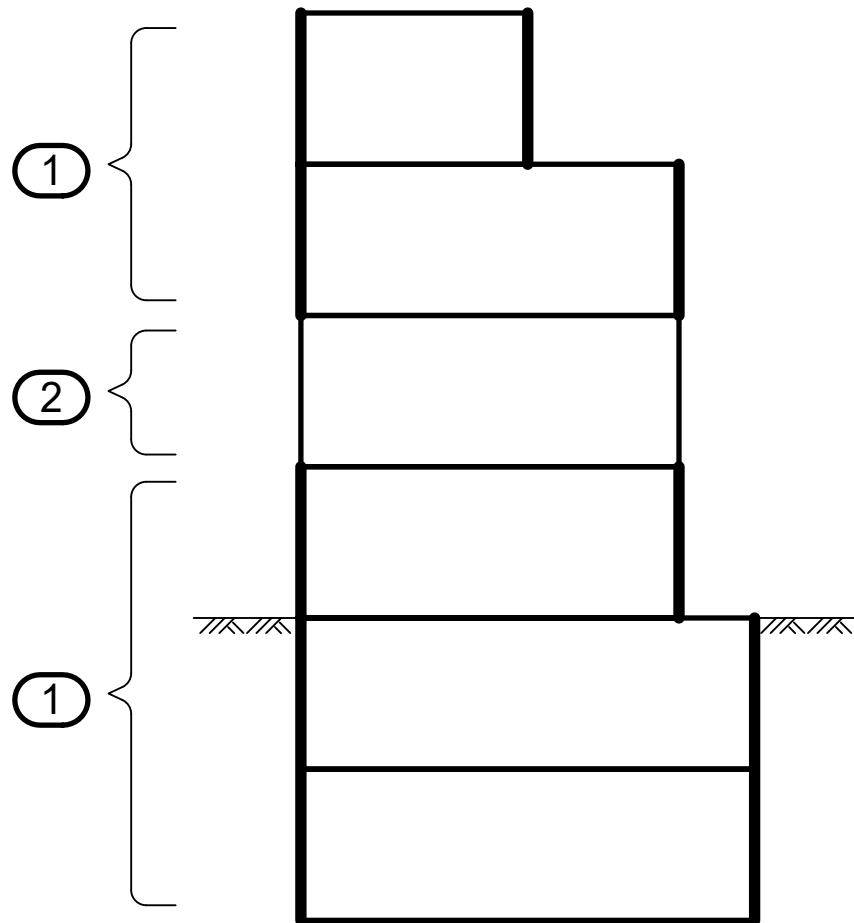
H.A. = 10 Kg/ml

3.4.1 - LOCALISATION RATIO RENFORTS D'ANGLE

ET ABOUTS DE MURS SANS PILIERS - BÂTIMENT A :



3.4.2 - LOCALISATION RATIO RENFORTS D'ANGLE
ET ABOUTS DE MURS SANS PILIERS - BÂTIMENT B :



4 - ELEMENTS HORIZONTALS - BÂTIMENT A

QUANTITES T.S. ET H.A. INDIQUEES DANS OEUVRE .

DALLES PORTEES SUR 2 ou 4 APPUIS (voir sur plan d'ensemble)

PAS DE PREDALLES POSSIBLES POUR ZONES SUR 4 APPUIS.

NOTA : ratio moyen donné pour la totalité de la surface de la dalle dans oeuvre, toutes épaisseurs confondues, non applicable à des zones isolées, y compris balcons et terrasses.

<u>4.1 - PLANCHER HAUT DU SOUS SOL -2 :</u>	T.S. = 9.5 Kg/m ² H.A. = 0.3 Kg/m ²
<u>4.2 - PLANCHER HAUT DU SOUS SOL -1 :</u>	T.S. = 11.0 Kg/m ² H.A. = 0.3 Kg/m ²
<u>4.3 - PLANCHER HAUT DU REZ :</u>	T.S. = 10.6 Kg/m ² H.A. = 0.3 Kg/m ²
<u>4.4 - PLANCHER HAUT DU NIVEAU 1 ET 2 :</u>	T.S. = 11.3 Kg/m ² H.A. = 0.4 Kg/m ²
<u>4.5 - PLANCHER HAUT DU NIVEAU 3 :</u>	T.S. = 11.5 Kg/m ² H.A. = 0.4. Kg/m ²
<u>4.6 - PLANCHER HAUT DU NIVEAU 4 :</u>	T.S. = 10.4 Kg/m ² H.A. = 0.5 Kg/m ²
<u>4.7 - DALLE HAUTE DE LA GAINES ASCENSEUR :</u>	T.S. = 6 Kg/m ² H.A. = 6 Kg/m ²

4.8 - ESCALIERS :

Préfabriqués du commerce ou coulés en place.

Si coulés en place paillasse ép 16cm .T.S + H.A. = 12 Kg/m²

5 - ELEMENTS HORIZONTALS - BÂTIMENT B

QUANTITES T.S. ET H.A. INDIQUEES DANS OEUVRE .

DALLES PORTEES SUR 2 ou 4 APPUIS (voir sur plan d'ensemble)

PAS DE PREDALLES POSSIBLES POUR ZONES SUR 4 APPUIS.

NOTA : ratio moyen donné pour la totalité de la surface de la dalle dans oeuvre, toutes épaisseurs confondues, non applicable à des zones isolées, y compris balcons et terrasses.

5.1 - PLANCHER HAUT DU SOUS SOL -2 :

T.S. = 9.5 Kg/m²

H.A. = 0.3 Kg/m²

5.2 - PLANCHER HAUT DU SOUS SOL -1 :

T.S. = 10.6 Kg/m²

H.A. = 0.3 Kg/m²

5.3 - PLANCHER HAUT DU REZ ET NIVEAU 1 :

T.S. = 11.8 Kg/m²

H.A. = 0.4 Kg/m²

5.4 - PLANCHER HAUT DU NIVEAU 2 :

T.S. = 12.9 Kg/m²

H.A. = 0.4 Kg/m²

5.5 - PLANCHER HAUT DU NIVEAU 3 :

T.S. = 10.3 Kg/m²

H.A. = 0.3 Kg/m²

5.5 - DALLE HAUTE DE LA GAINÉ ASCENSEUR :

T.S. = 6 Kg/m²

H.A. = 6 Kg/m²

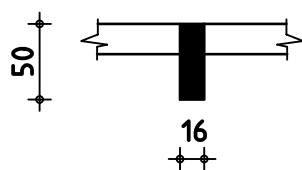
5.6 - ESCALIERS :

Préfabriqués du commerce ou coulée en place.

Si coulés en place paillasse ép 16cm .T.S + H.A. = 12 Kg/m²

- L1 -

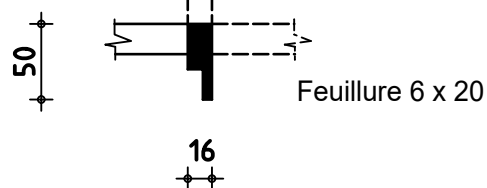
16x50



H.A. = 60 Kg/m³

- L2 -

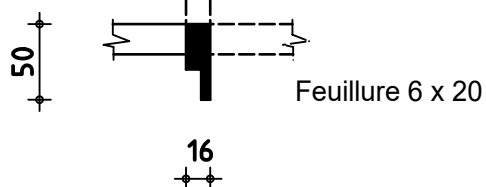
16x50



H.A. = 80 Kg/m³

- L2A -

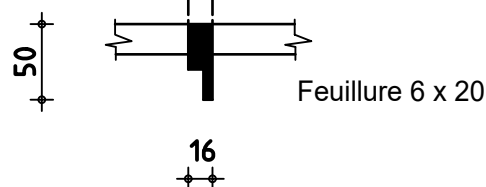
16x50



H.A. = 100 Kg/m³

- L3 -

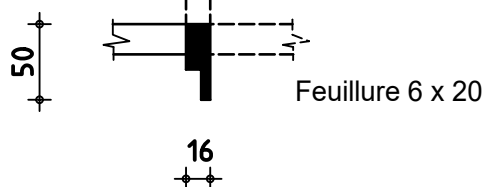
16x50



H.A. = 180 Kg/m³

- L3A -

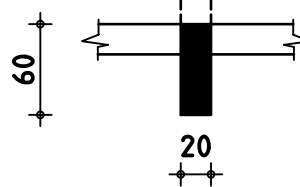
16x50



H.A. = 140 Kg/m³

- L4 -

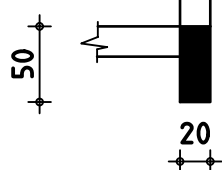
20x60



H.A. = 80 Kg/m³

- L5 -

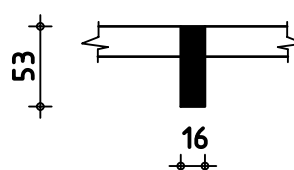
20x50



H.A. = 80 Kg/m³

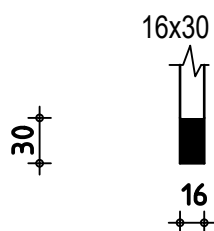
- L6 -

16x53



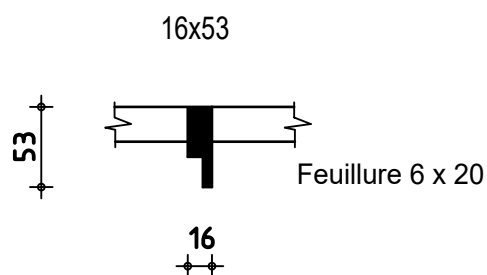
H.A. = 60 Kg/m³

- L7 -



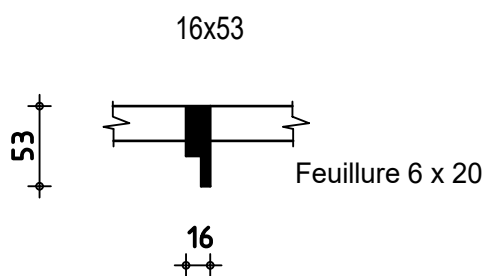
H.A. = 60 Kg/m³

- L8 -



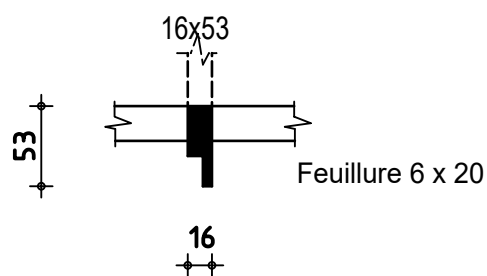
H.A. = 80 Kg/m³

- L8A -



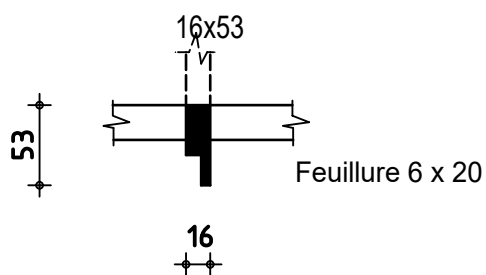
H.A. = 100 Kg/m³

- L9 -



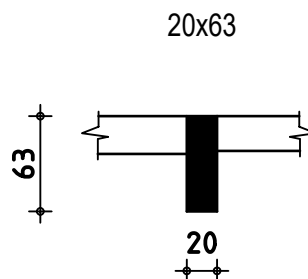
H.A. = 180 Kg/m³

- L9A -



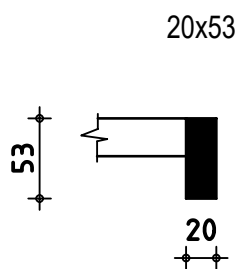
H.A. = 100 Kg/m³

- L10 -



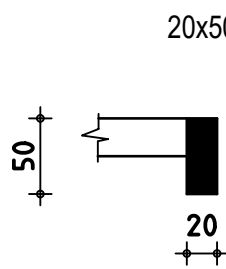
H.A. = 80 Kg/m³

- L11 -



H.A. = 80 Kg/m³

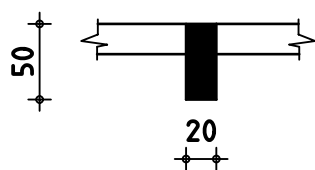
- L12 -



H.A. = 80 Kg/m³

- L13 -

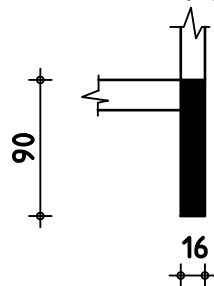
20x50



H.A. = 80 Kg/m³

- L14 -

16x90



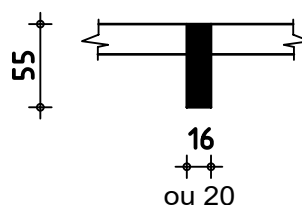
H.A. = 60 Kg/m³

- L15 -

Linteau L15 supprimé

- L16 -

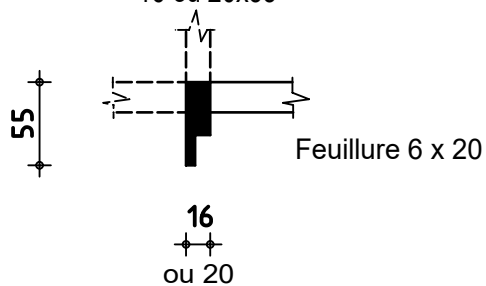
16 ou 20x55



H.A. = 80 Kg/m³

- L17 -

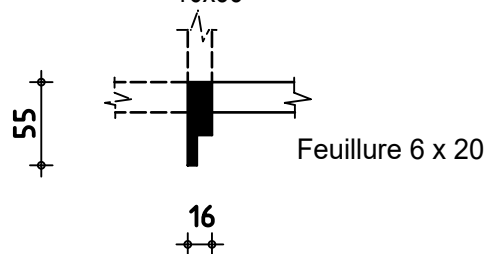
16 ou 20x55



H.A. = 80 Kg/m³

- L18 -

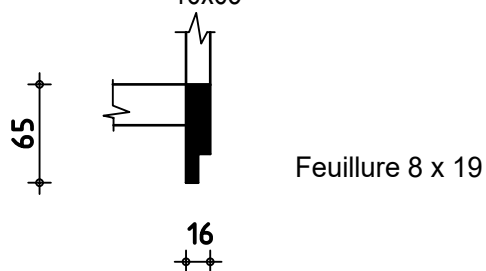
16x55



H.A. = 180 Kg/m³

- L19 -

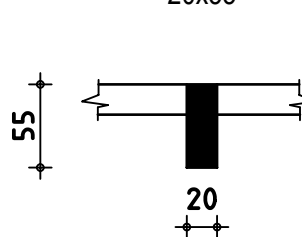
16x65



H.A. = 110 Kg/m³

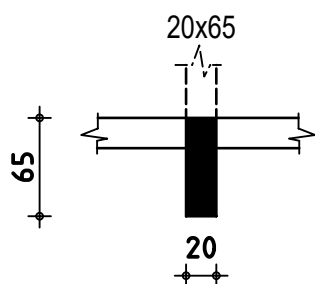
- L20 -

20x55



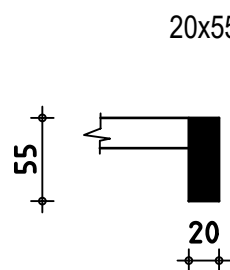
H.A. = 100 Kg/m³

- L21 -



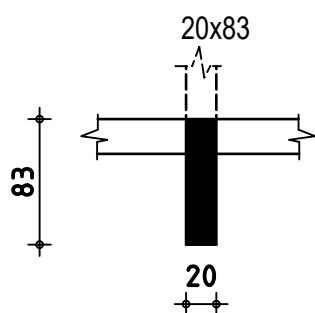
H.A. = 80 Kg/m³

- L22 -



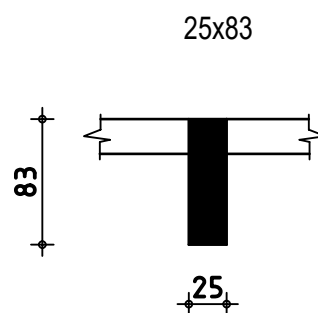
H.A. = 80 Kg/m³

- L101 -



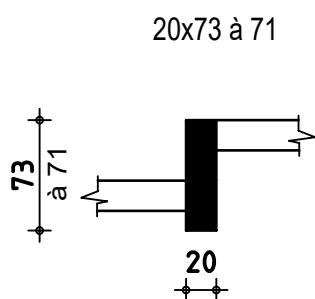
H.A. = 80 Kg/m³

- L102 -



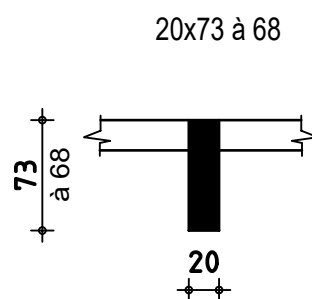
H.A. = 100 Kg/m³

- L103 -



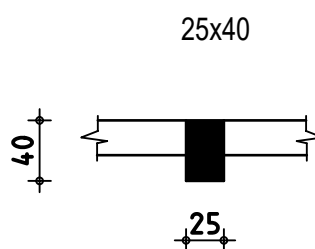
H.A. = 80 Kg/m³

- L104 -



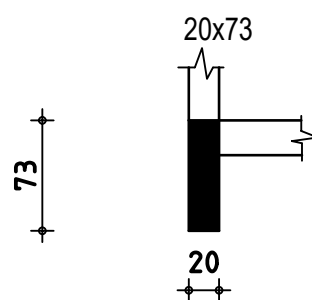
H.A. = 80 Kg/m³

- L105 -



H.A. = 80 Kg/m³

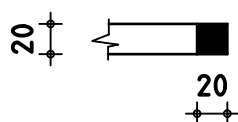
- L106 -



H.A. = 80 Kg/m³

- L107 -

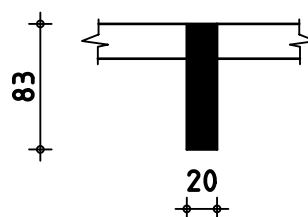
20x20



H.A. = 70 Kg/m³

- L108 -

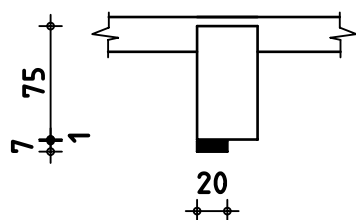
20x83



H.A. = 160 Kg/m³

- L109 -

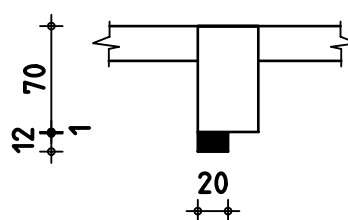
20x7



H.A. = 60 Kg/m³

- L110 -

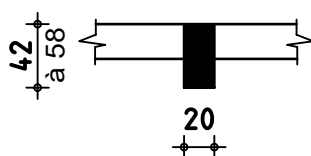
20x12



H.A. = 60 Kg/m³

- L111 -

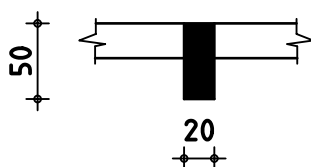
20x42 à 58



H.A. = 80 Kg/m³

- L201 -

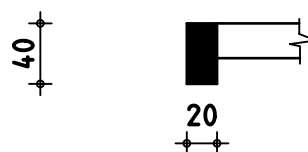
20x50



H.A. = 80 Kg/m³

- L202 -

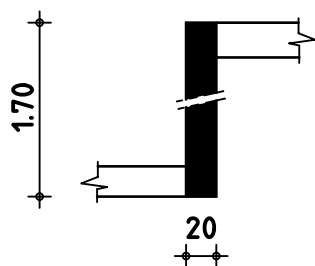
20x40



H.A. = 80 Kg/m³

- L203 -

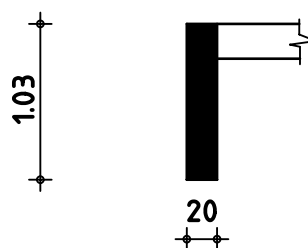
20x1.70



H.A. = 80 Kg/m³

- L204 -

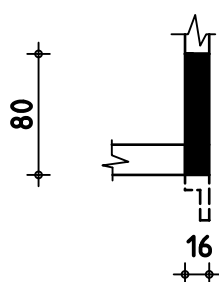
20x1.03



H.A. = 70 Kg/m³

- S1 -

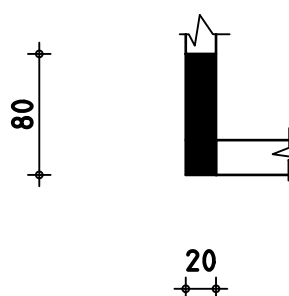
16x80



H.A. = 120 Kg/m³

- S2 -

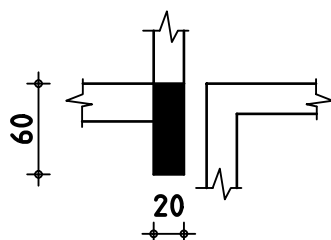
20x80



H.A. = 120 Kg/m³

- S3 -

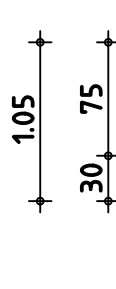
20x60



H.A. = 130 Kg/m³

- S4 -

16x1.05

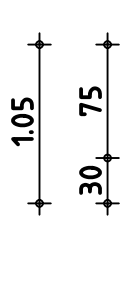


Feuillure 6 x 20

H.A. = 100 Kg/m³

- S5 -

18x1.05

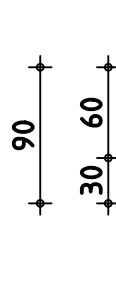


Feuillure 6 x 20

H.A. = 160 Kg/m³

- S6 -

20x90

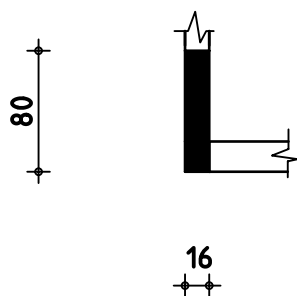


Feuillure 6 x 20

H.A. = 150 Kg/m³

- S7 -

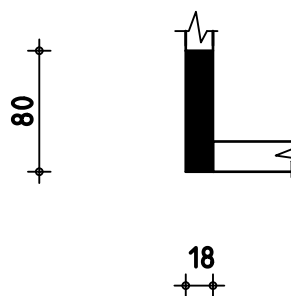
16x80



H.A. = 100 Kg/m³

- S8 -

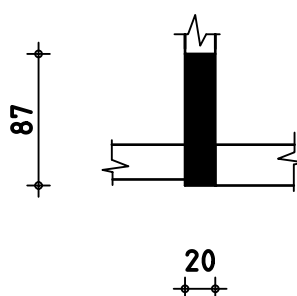
18x80 ou 83



H.A. = 160 Kg/m³

- S9 -

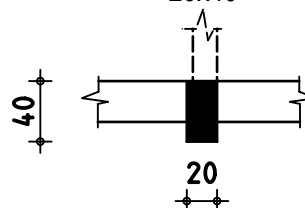
20x87



H.A. = 150 Kg/m³

- S10 -

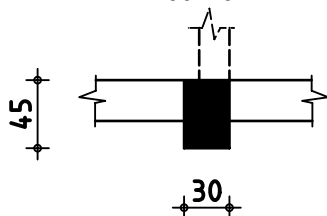
20x40



H.A. = 160 Kg/m³

- S11 -

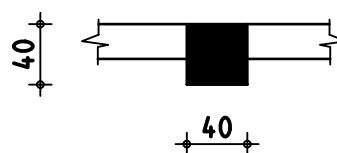
30x45



H.A. = 250 Kg/m³

- S12 -

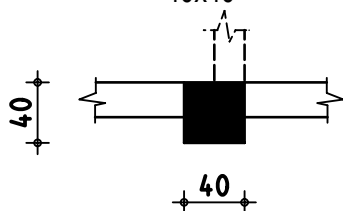
40x40



H.A. = 120 Kg/m³

- S13 -

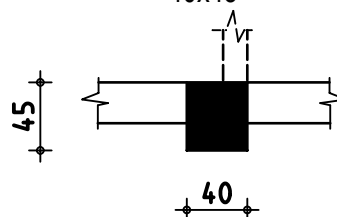
40x40



H.A. = 170 Kg/m³

- S14 -

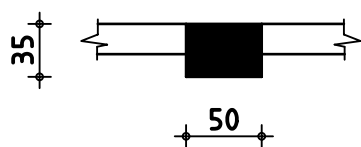
40x45



H.A. = 150 Kg/m³

- S15 -

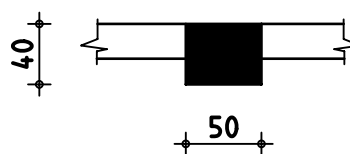
50x35



H.A. = 230 Kg/m³

- S16 -

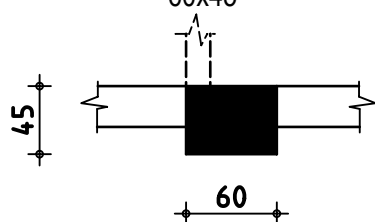
50x40



H.A. = 180 Kg/m³

- S17 -

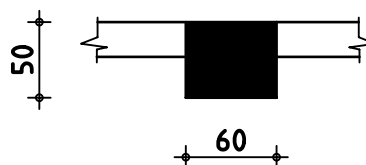
60x45



H.A. = 170 Kg/m³

- S18 -

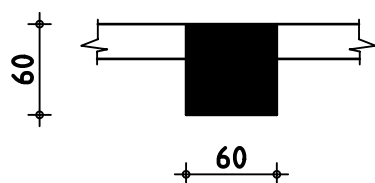
60x50



H.A. = 130 Kg/m³

- S19 -

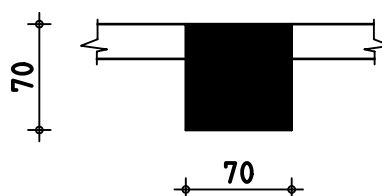
60x60



H.A. = 160 Kg/m³

- S20 -

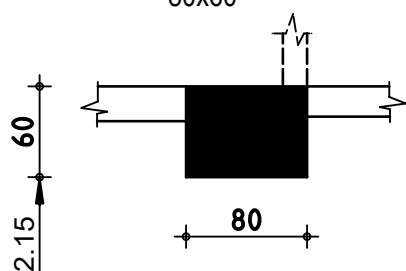
70x70



H.A. = 180 Kg/m³

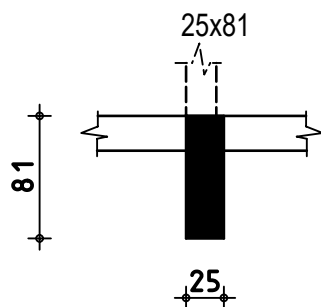
- S21 -

80x60



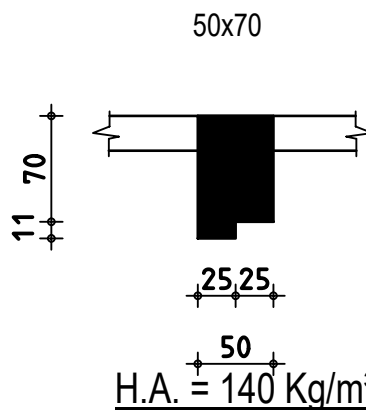
H.A. = 290 Kg/m³

- S101 -



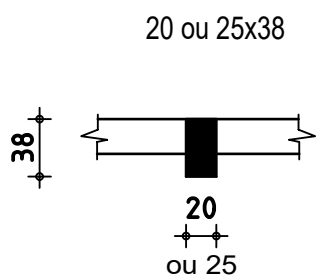
H.A. = 100 Kg/m³

- S102 -



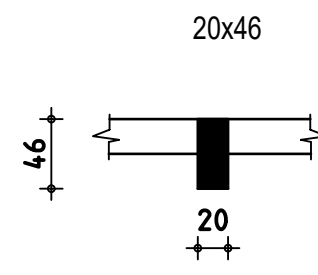
H.A. = 140 Kg/m³

- S103 -



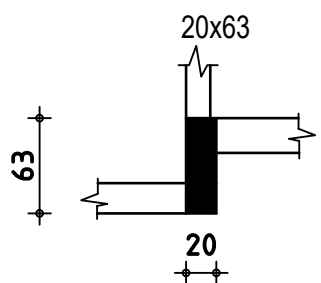
H.A. = 100 Kg/m³

- S104 -



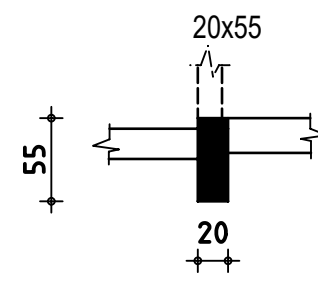
H.A. = 100 Kg/m³

- S105 -



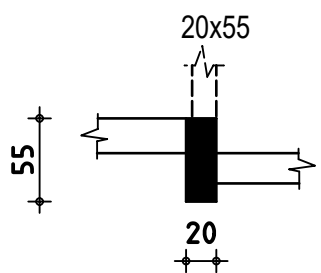
H.A. = 80 Kg/m³

- S106 -



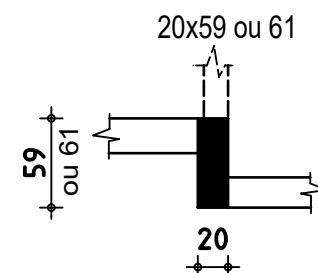
H.A. = 100 Kg/m³

- S107 -



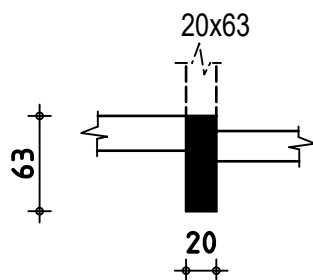
H.A. = 110 Kg/m³

- S108 -



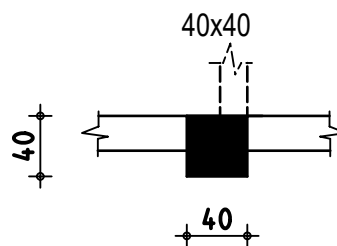
H.A. = 90 Kg/m³

- S109 -



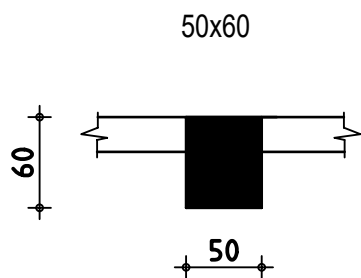
H.A. = 140 Kg/m³

- S110 -



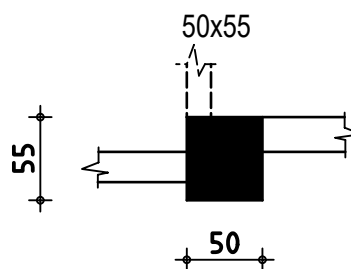
H.A. = 190 Kg/m³

- S111 -



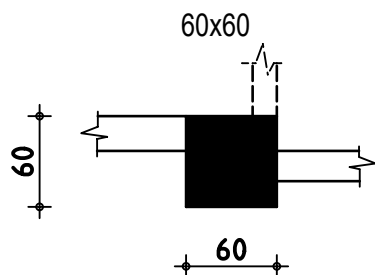
H.A. = 180 Kg/m³

- S112 -



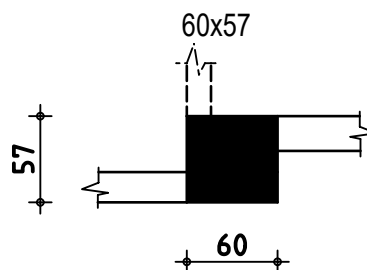
H.A. = 150 Kg/m³

- S113 -



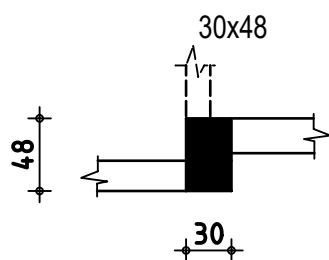
H.A. = 130 Kg/m³

- S114 -



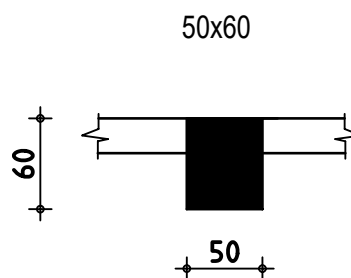
H.A. = 130 Kg/m³

- S114A -



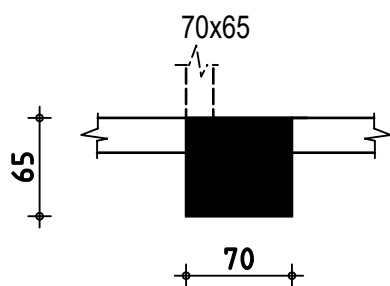
H.A. = 120 Kg/m³

- S115 -



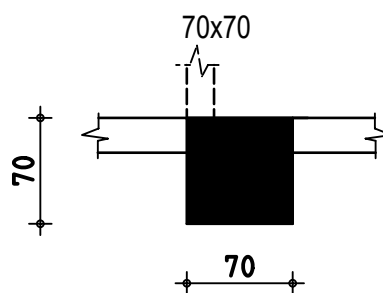
H.A. = 200 Kg/m³

- S116 -



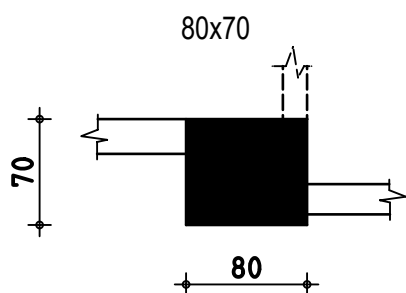
H.A. = 150 Kg/m³

- S117 -



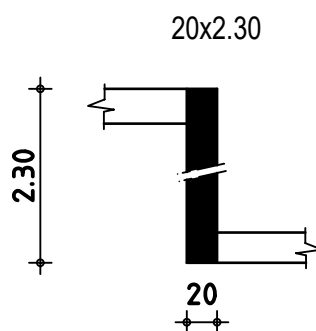
H.A. = 170 Kg/m³

- S118 -



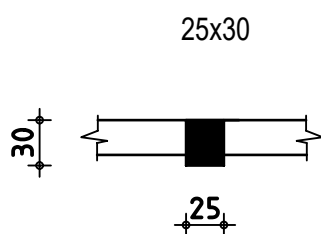
H.A. = 170 Kg/m³

- S119 -



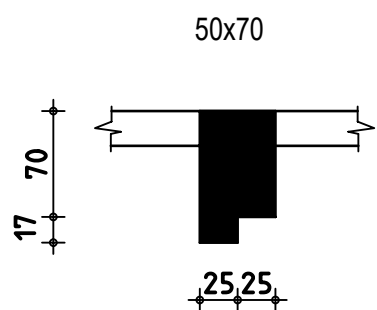
H.A. = 80 Kg/m³

- S120 -



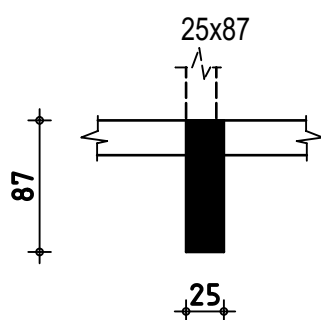
H.A. = 210 Kg/m³

- S121 -



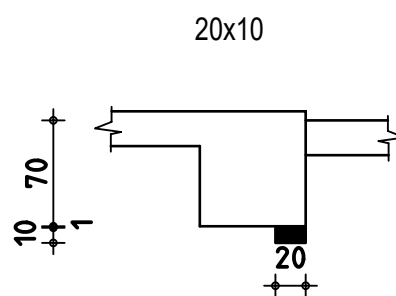
H.A. = 140 Kg/m³

- S122 -



H.A. = 100 Kg/m³

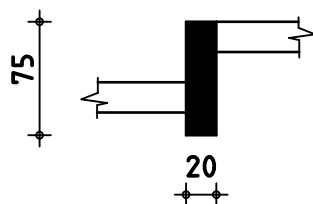
- S123 -



H.A. = 60 Kg/m³

- S124 -

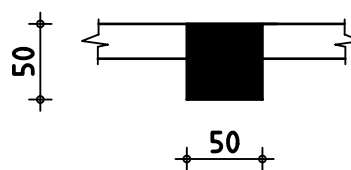
20x75



H.A. = 100 Kg/m³

- S125 -

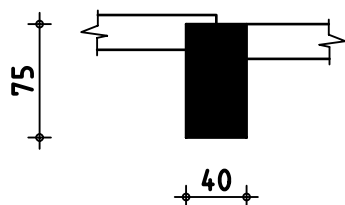
50x50



H.A. = 140 Kg/m³

- S126 -

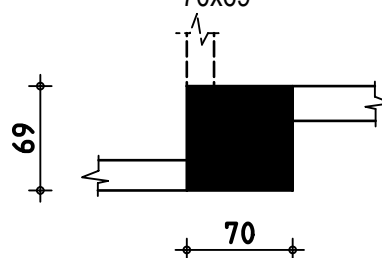
40x75



H.A. = 280 Kg/m³

- S127 -

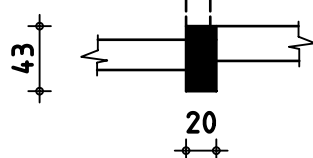
70x69



H.A. = 200 Kg/m³

- S128 -

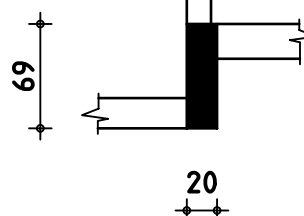
20x43



H.A. = 100 Kg/m³

- S129 -

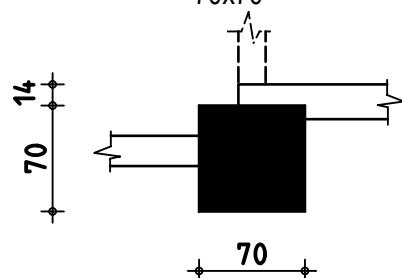
20x69



H.A. = 100 Kg/m³

- S130 -

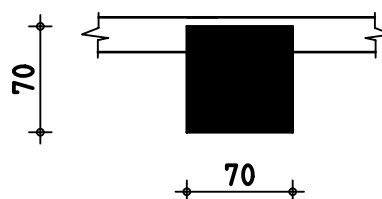
70x70



H.A. = 240 Kg/m³

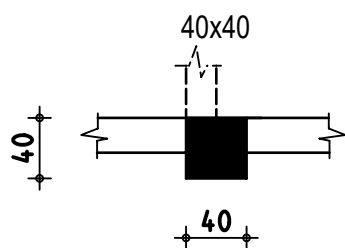
- S131 -

70x70



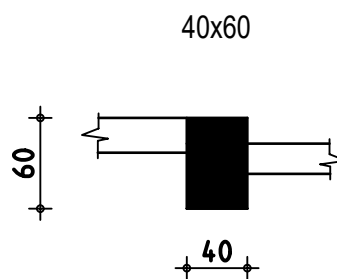
H.A. = 240 Kg/m³

- S132 -



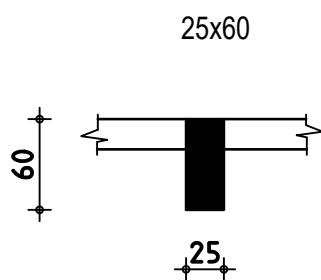
H.A. = 250 Kg/m³

- S133 -



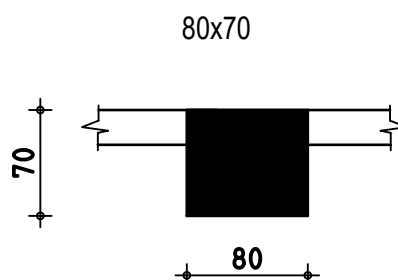
H.A. = 130 Kg/m³

- S134 -



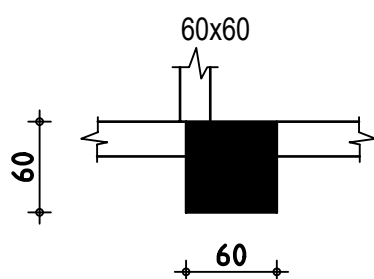
H.A. = 140 Kg/m³

- S135 -



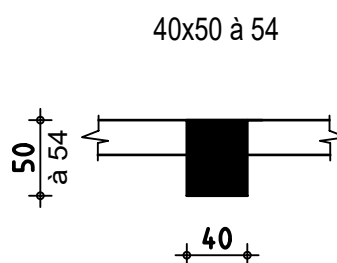
H.A. = 210 Kg/m³

- S136 -



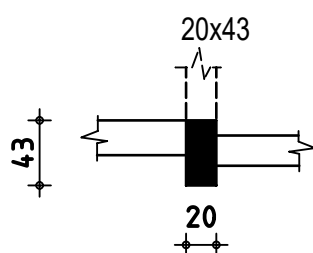
H.A. = 180 Kg/m³

- S137 -



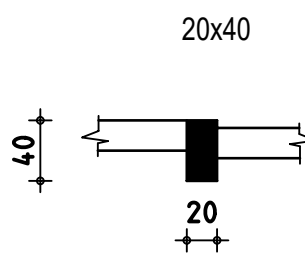
H.A. = 260 Kg/m³

- S138 -



H.A. = 100 Kg/m³

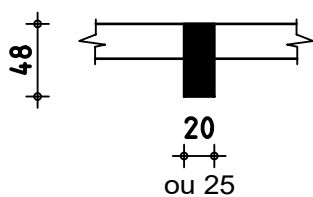
- S139 -



H.A. = 100 Kg/m³

- S201 -

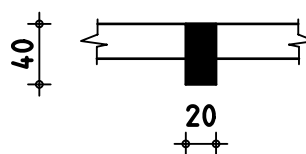
20 ou 25x48



H.A. = 80 Kg/m³

- S202 -

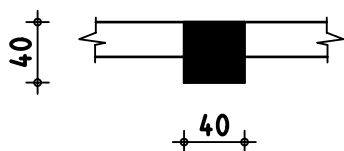
20x40



H.A. = 160 Kg/m³

- S203 -

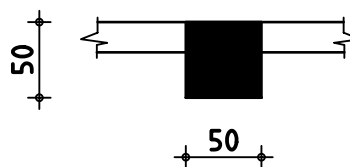
40x40



H.A. = 130 Kg/m³

- S204 -

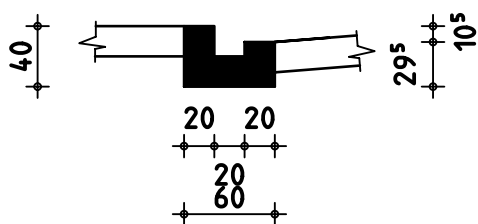
50x50



H.A. = 360 Kg/m³

- S205 -

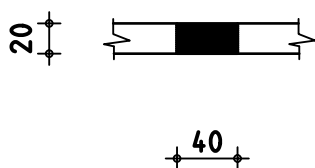
50x50



H.A. = 150 Kg/m³

- Bn1 -

40x20



H.A. = 160 Kg/m³

- Bn2 -

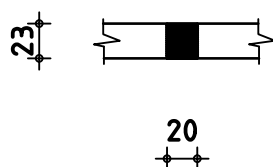
50x20



H.A. = 200 Kg/m³

- Bn3 -

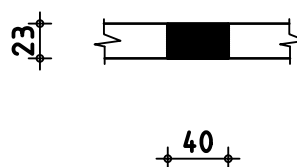
20x23



H.A. = 110 Kg/m³

- Bn4 -

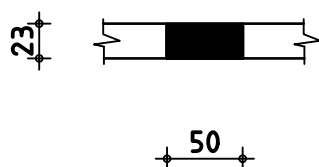
40x23



H.A. = 160 Kg/m³

- Bn5 -

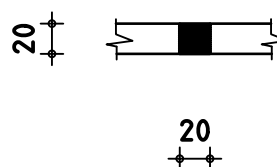
50x23



H.A. = 120 Kg/m³

- Bn6 -

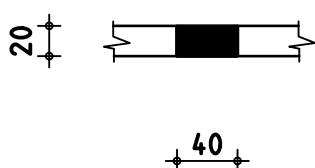
20x20



H.A. = 120 Kg/m³

- Bn7 -

40x20



H.A. = 160 Kg/m³

- Bn8 -

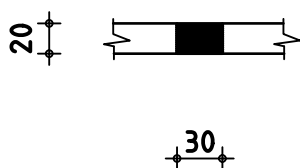
50x20



H.A. = 120 Kg/m³

- Bn9 -

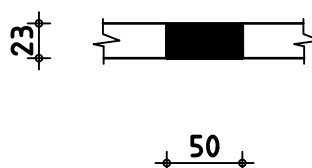
50x20



H.A. = 170 Kg/m³

- Bn10 -

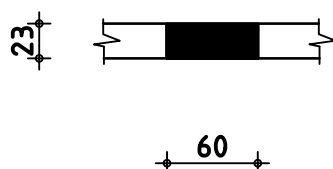
50x23



H.A. = 140 Kg/m³

- Bn11 -

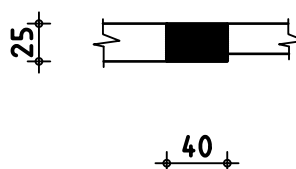
60x23



H.A. = 230 Kg/m³

- Bn12 -

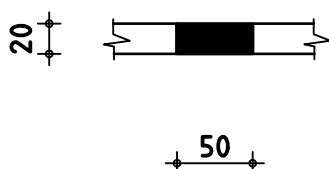
40x25



H.A. = 260 Kg/m³

- Bn13 -

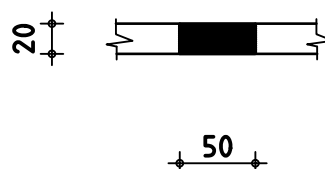
50x20



H.A. = 140 Kg/m³

- Bn14 -

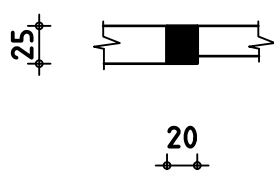
50x20



H.A. = 200 Kg/m³

- Bn15 -

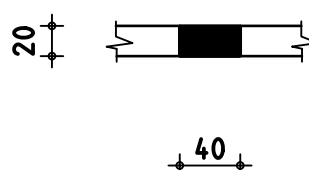
20x25



H.A. = 120 Kg/m³

- Bn16 -

40x20



H.A. = 180 Kg/m³

- Bn17 -

40x27



H.A. = 100 Kg/m³

- Bn101 -

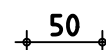
40x23



H.A. = 140 Kg/m³

- Bn102 -

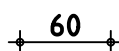
40x20



H.A. = 160 Kg/m³

- Bn103 -

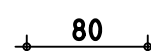
60x20



H.A. = 140 Kg/m³

- Bn104 -

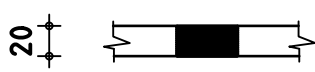
80x23



H.A. = 100 Kg/m³

- Bn201 -

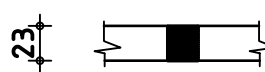
40x20



H.A. = 130 Kg/m³

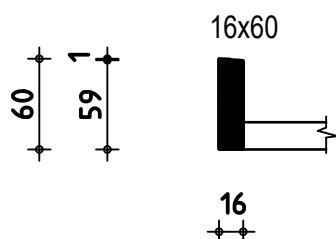
- C1 -

20x23



H.A. = 100 Kg/m³

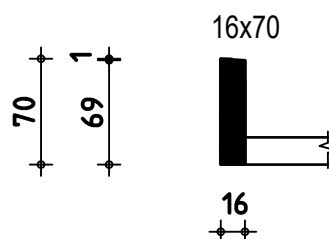
- Re1 -



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

H.A. = 60 Kg/m³

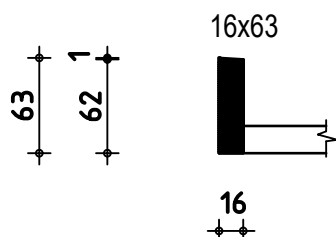
- Re2 -



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

H.A. = 60 Kg/m³

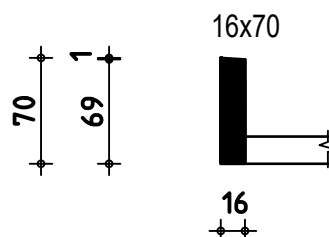
- Re3 -



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

H.A. = 60 Kg/m³

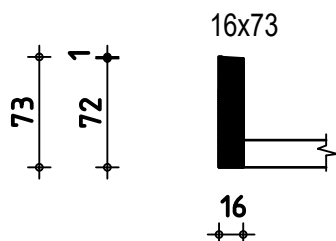
- Re4 -



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

H.A. = 60 Kg/m³

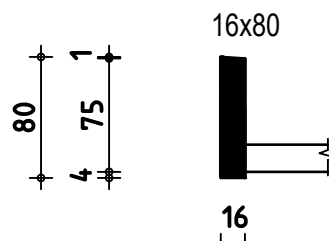
- Re5 -



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

H.A. = 60 Kg/m³

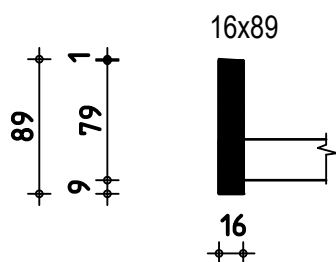
- Re6 -



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

H.A. = 60 Kg/m³

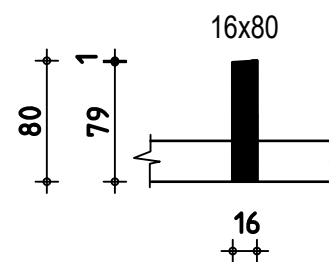
- Re7 -



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

H.A. = 60 Kg/m³

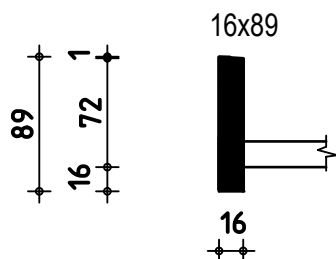
- Re8 -



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

H.A. = 60 Kg/m³

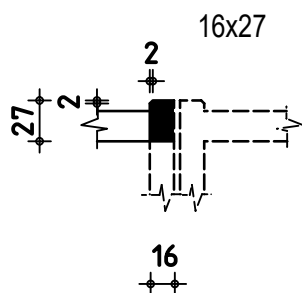
- Re9 -



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

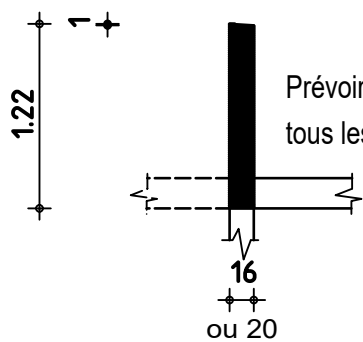
H.A. = 60 Kg/m³

- Re101 -



H.A. = 60 Kg/m³

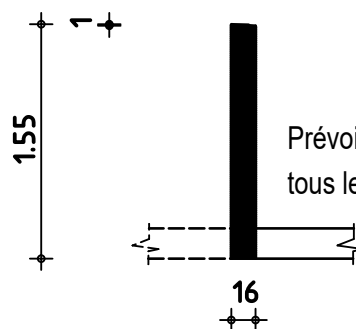
- Gc1 - 16 ou 20x1.22



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

H.A. = 60 Kg/m³

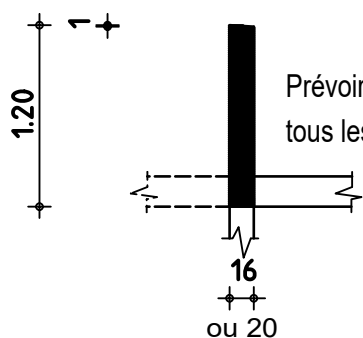
- Gc2 - 16x1.55



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

H.A. = 60 Kg/m³

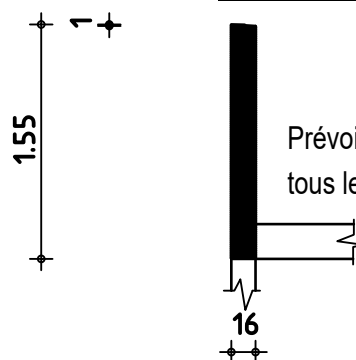
- Gc3 - 16 ou 20x1.20



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

H.A. = 60 Kg/m³

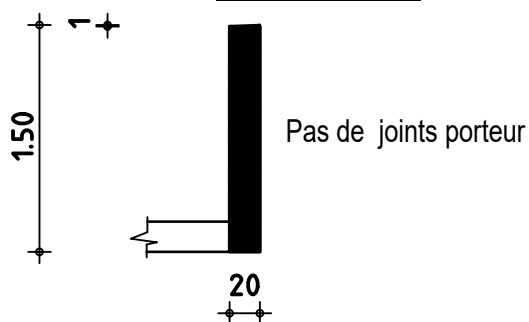
- Gc4 - 16x1.55



Prévoir joints de Fractionnement
tous les 6.00 ml maxi .

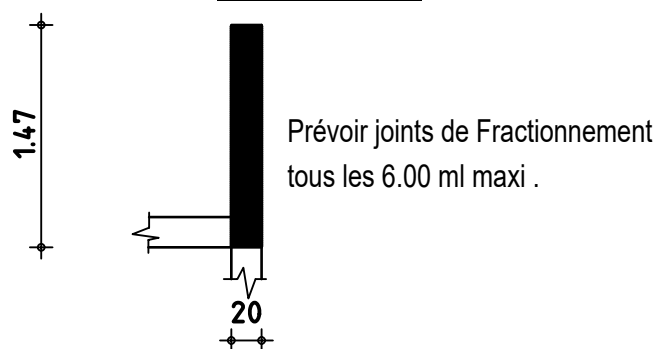
H.A. = 60 Kg/m³

- Gc101 - 20x1.50



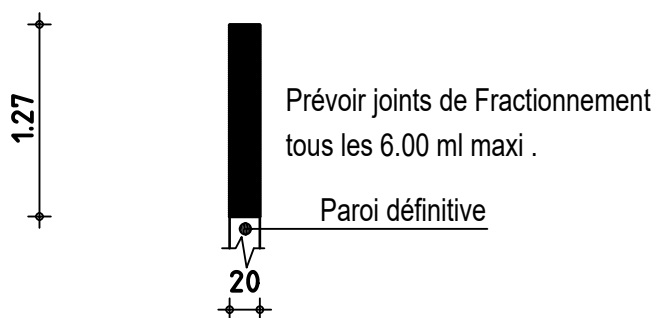
H.A. = 100 Kg/m³

- Gc102 - 20x1.47



H.A. = 60 Kg/m³

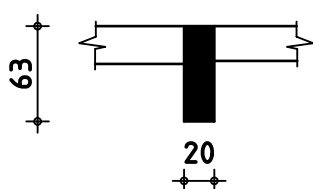
- Gc102A - 20x1.27



H.A. = 60 Kg/m³

- L23 -

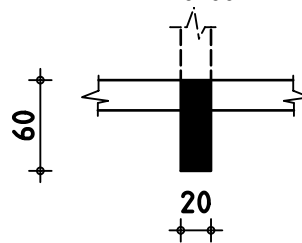
20x63



H.A. = 120 Kg/m³

- L24 -

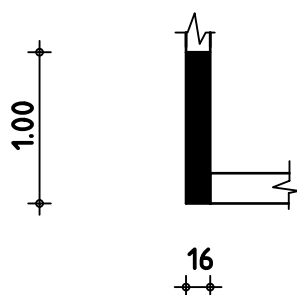
20x60



H.A. = 120 Kg/m³

- S22 -

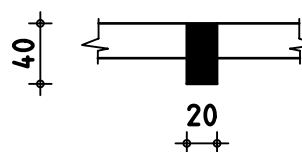
16 x1.00



H.A. = 120 Kg/m³

- S23 -

20x40



H.A. = 200 Kg/m³