LOSAS
Hormigón
Acero

| | LUC | CES | RELACIÓN | TIPO DE | CARGAS | F | REACC | IONES | d | MOMENTO | OS TRAMO | h | | ARM | 1ADUF | RA TRA | MO | | MOMENTOS | | | ARMA | ADURA APO | OYOS | | |
|----------|-----|-----|-------------------|---------|---------|-----------|-----------|---------------------|------|-----------------|----------|------|--------------------|------|-------|--------------------|------|------|----------|--------------------|-----------------------|----------|-----------|----------|--------|-----------|
| POSICIÓN | lx | ly | lx / ly - ly / lx | APOYO | q_u | R_{uxi} | R_{uxd} | R_{uyi} R_{uyd} | mín. | M _{ux} | M_{uy} | " | A _{sx} | ф | Sep. | A _{sy} | ф | Sep. | APOYOS | As neces. | L | EV. TRAI | MO | А | DICION | AL |
| | (n | n) | | | (tn/m²) | | (tı | n) | (cm) | (tm | /m) | (cm) | (cm ²) | (mm) | (cm) | (cm ²) | (mm) | (cm) | (tm/m) | (cm ²) | Fe (cm ²) | φ (mm) | Sep. (cm) | Fe (cm²) | φ (mm) | Sep. (cm) |
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| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Le1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Le2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Le3 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | | |

<u>Vigas</u> Hormigón OBRA:

| igas Iormigón | | | | | | | | | | | | | | | | | | | | | | Δ | cero | | | | | | | | | | | | | | | | | | |
|------------------|-------|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------|--------|--------|-----------------|---------------------|-----------|----------------|------|--------|----------------|---------|------|---------|------|-----------|-----------------|-----------------|---------------------|--------------|------------|-----------|--------|-----|-------------|---------|-----------|----------|-----------|--------|--------------|-------------------|---------|--------------------------|------------|
| | | | | CARGA | NS. | | | | CONDIC | CIÓN R | eacción | Momento en apoyo | Mu | | | SIONES | | | | URA TE | RAMO | | CORT | TΕ | | MADURA DE | | | | | | | | | APOY | ′OS | | | | | |
| OSICIÓN FORMA | LUZ 9 | _{1u} q _{2u} | q _{3u} | q _{4u} | P _{1u} | P _{2u} | p _{3u} | DIAGRAMA | DE APO | OYO R | R _{ub} | en apoyo | Tramo | b _w | d | h | h _L | Α. | | \perp | Α' | | V _{uA} | V _{uB} | | dobladas | E: | stribos | | | | | de tracc | | | | | Armadura de | | | OBSERVACIO |
| | (100) | | | (1,0,/00) | | | | | | | (4m) | | (400 000) | | (0.0 | \ | /A | As Ca | n. φ | As | Can. | φ (mm) | (100) | | A Cant. (mm) | B Cont l+ /m | ma\ ± /max | m) I Cana | As (cm | | amo izq. | | mo der. | | cionales | | Tramo izq. | Tramo de | | Adicionales Cant. (mm) | |
| | (m) | | | (kg/m) |) | T | 1 | | | _ | (tn) | | (tn.m) | | (cr | n) | (CI | m²) | (mn | n) (cm | -) | (mm) | (kg) |) | Cant. ϕ (mm) | Cant. o (m | m) φ (mr | n) Sepa | ır. | Can | it. φ (mr | n) Cant | . ф (mm | 1) cm² (| zant. φ (| mm) Ca | int. o (mm | Cant. ϕ (r | mm) cm² | Cant. o (mm) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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VigasOBRA:HormigónAcero

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| | | т | | | CARC | GAS | | | | CONDICIÓ | N Reacción | Momento | Mu | | IENSION | ES | | ARMADI | JRA TRAN | МО | CC | ORTE | T | ARMADUF | RA DE CORTE | | | | | | | APOYOS | | | | | - | |
| POSICIÓN | L | .uz 🗌 | q _{1u} q | _{tu} q ₃ | gu q ₄₁ | _u p _{1u} | p ₂ | _{2u} p _{3u} | DIAGRAMA | DE APOYO | R _{ua} R _{ub} | en apoyo | Tramo | b _w d | h | h _L | | Α | | A' | V _{uA} | V _{uB} | | Barras doblada | as E | stribos | | Α | rmadura de | e tracciór | n | | A | rmadura de | compres | sión | | OBSERVACIONES |
| POSICION | FURIVIA | | | | | | | | DIAGRAMA | ` | | | | | | | As C | Can. þ | As (| Can. þ | | | | A | В | | As (cm ²) | Tramo izq. | | | | licionales | Tramo izq. | Tramo d | | Adicional | les | OBSERVACIONES |
| | (| (m) | | | (kg/r | m) | | | | | (tn) | | (tn.m) | | (cm) | | (cm ²) | (mm | n) (cm²) | (mm |) (| kg) | Cant. | φ (mm) Cant. | φ (mm) φ (mr | m) Separ. | | Cant. ϕ (mr | n) Cant. | φ (mm) | cm ² | Cant. ϕ (mm) | Cant. (mm) | Cant. ϕ (| nm) cm² | ² Cant. ¢ | (mm) | |
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Planilla de columnas

Hormigón PISOS OBRA: Acero

| Posición | I | Peso propio | N _u | M _{ux} | M _{uy} | λ_{x} | λ_{y} | n | m _x | m _y | w _o | [| Dimensio | nes | A _s | | A _s | estribos | Observaciones |
|----------|-----|-------------|----------------|-----------------|-----------------|---------------|---------------|---|----------------|----------------|----------------|---|----------|------|----------------|---|----------------|------------|---------------|
| | (m) | (tn) | (tn) | (tn) | (tn) | | | | | | | b | h | Área | Cantidad | ф | ф | Separación | |
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<u>Planilla de bases</u> Hormigón

| Niúmana | Car | gas | | | | | siones | | |
|---------|--------|--------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Número | D (tn) | L (tn) | a ₁ (cm) | a ₂ (cm) | c ₁ (cm) | c ₂ (cm) | b ₁ (cm) | b ₂ (cm) | h _o (cm) |
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OBRA: Acero

| | | D | irección 1 | | | | | Dirección 2 |
|--------|-----------------------|----------------------------|--|--|--|---|---|---|
| r (cm) | M _{u1} (tnm) | d ₁ (cm) | A _{s1} | ф | Sep. | M _{u2} (tnm) | d ₂ (cm) | A _{s2} |
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| | (cm) | (cm) M _{u1} (tnm) | (cm) M _{u1} (tnm) d ₁ (cm) | (cm) M _{u1} (tnm) d ₁ (cm) A _{s1} | (cm) M _{u1} (tnm) d ₁ (cm) A _{s1} ф | (cm) M _{u1} (tnm) d ₁ (cm) A _{s1} φ Sep. | (сm) M _{u1} (tnm) d ₁ (cm) A _{s1} ф Sep. M _{u2} (tnm) | (cm) M _{u1} (tnm) d ₁ (cm) A _{s1} φ Sep. M _{u2} (tnm) d ₂ (cm) |

| ф | Sep. | Observaciones |
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Proyecto: Edificio - Grupo 3 Preparación:

Nivel: 1° Revisión:

| Nivel: | 1° | | | | | | | | | | Rev | risión: | |
|----------|----------|-------|--------|----------|--------------|---|---|-------|---------------|------|-----|---------------|--------------------|
| Elemento | Posición | Forma | φ (mm) | Cantidad | Longitud (m) | 6 | 8 | To: | tal (m) 12 | 16 | 20 | 25 | ADN 42/50 (kg) |
| L108 | P7 | | 10 | 13 | 10,201 | | | 132,6 | . = | | | | 82,22 |
| L108 | P8 | | 10 | 13 | 1,825 | | | 23,7 | | | | | 14,71 |
| L108 | P9 | | 10 | 20 | 11,146 | | | 222,9 | | | | | 138,21 |
| L108 | P10 | | 10 | 32 | 1,825 | | | 58,4 | | | | | 36,21 |
| L108 | P11 | | 10 | 24 | 1,55 | | | 37,2 | | | | | 23,06 |
| L108 | P20 | | 10 | 24 | 11,0864 | | | 266,1 | | | | | 164,97 |
| L109 | P7 | | 10 | 13 | 10,201 | | | 132,6 | | | | | 82,22 |
| L109 | P9 | | 10 | 20 | 11,146 | | | 222,9 | | | | | 138,21 |
| L109 | P10 | | 10 | 64 | 1,825 | | | 116,8 | | | | | 72,42 |
| L109 | P11 | | 10 | 16 | 1,55 | | | 24,8 | | | | | 15,38 |
| L109 | p12 | | 10 | 16 | 10,1264 | | | 162,0 | | | | | 100,45 |
| L110 | P7 | | 10 | 13 | 10,201 | | | 132,6 | | | | | 82,22 |
| L110 | P9 | | 10 | 20 | 11,146 | | | 222,9 | | | | | 138,21 |
| L110 | P10 | | 10 | 32 | 1,825 | | | 58,4 | | | | | 36,21 |
| L110 | P11 | | 10 | 16 | 1,55 | | | 24,8 | | | | | 15,38 |
| L110 | P12 | | 10 | 16 | 10,1264 | | | 162,0 | | | | | 100,45 |
| | | | | | | | | | | TOTA | | TAL = 0% = | 1240,52 1364,57 |

1364,57 TOTAL + 10% =