OBO selection aid for foundation and ring earthers according to IEC/EN 62305 and DIN 18014

**Earthing material, for use in concrete:**
- Surrounded by min. 5 cm of concrete on all sides; ≤ 2 m connect to reinforcement
- Grid width max. 20 x 20 m; with EMC protection acc. to IEC/EN 62305: 5 x 5 m
- Unreinforced foundation: Material no. 1.4571/1.4404, V4A

<table>
<thead>
<tr>
<th>Type</th>
<th>Pack</th>
<th>Item no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5052</td>
<td>50m</td>
<td>5019347</td>
<td>Strip steel 30 x 3.5 mm FT</td>
</tr>
<tr>
<td>1811 L</td>
<td>25 units</td>
<td>5014026</td>
<td>Spacer 400 mm FT</td>
</tr>
<tr>
<td>250 A-F</td>
<td>25 units</td>
<td>5313015</td>
<td>Connector, strip steel with reinforcement FT</td>
</tr>
<tr>
<td>1814 FT</td>
<td>25 units</td>
<td>5014468</td>
<td>Terminal on reinforcement to Ø 14 mm</td>
</tr>
<tr>
<td>1814 FT D37</td>
<td>25 units</td>
<td>5014469</td>
<td>For reinforcements Ø 16–37 mm</td>
</tr>
<tr>
<td>205 B-M10 VA</td>
<td>25 units</td>
<td>5420008</td>
<td>Earthing fixed point M10</td>
</tr>
<tr>
<td>DW RD 10</td>
<td>10 units</td>
<td>2360041</td>
<td>Sealing sleeve for round cables 10 mm</td>
</tr>
<tr>
<td>5011 VA M10</td>
<td>50 units</td>
<td>5334934</td>
<td>End piece for earthing fixed point M10</td>
</tr>
<tr>
<td>Protection Ball</td>
<td>25 units</td>
<td>5018014</td>
<td>Protective cap for terminal lugs</td>
</tr>
</tbody>
</table>

**Earthing and connection material, for use in the earth, e.g. cleanliness layer**
- Material no. 1.4571/1.4404, V4A; clamps in earth with corrosion protection strip
- Min. 0.8 m deep, routing outside drainage shaft, frost apron (moist area)
- Grid: Without lightning protection: 20 x 20 m, connection between earth and concrete: Every 20 m, with lightning protection: 10 x 10 m, connection between earth and concrete: Every arrestor

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</thead>
<tbody>
<tr>
<td>RD 10 V4A</td>
<td>50 m</td>
<td>5021642</td>
<td>Round cable Ø 10 mm V4A</td>
</tr>
<tr>
<td>5052 V4A 30 x 3.5</td>
<td>25 m</td>
<td>5018730</td>
<td>Strip steel 30 x 3.5 mm V4A</td>
</tr>
<tr>
<td>250 V4A</td>
<td>25 units</td>
<td>5312925</td>
<td>Terminal for round cable and strip steel</td>
</tr>
<tr>
<td>356</td>
<td>10 m</td>
<td>2360101</td>
<td>Corrosion protection strip, width: 100 mm</td>
</tr>
</tbody>
</table>

**Foundation earther:**
- Without lightning protection → insulating foundation

**Ring earther:**
- Functional equipotential bonding conductor and ring earther
  - Without lightning protection
  - With lightning protection → insulating foundation

**Insulation foundation when:**
- WU concrete (white trough) for WZ<0.6, from C30/B35, (from C25/B30) → already possible
- Black/brown trough
- Completely enclosed foundation with perimeter insulation or dimpled membranes
- Additionally attached, capillary breaking, poorly electrically conductive earth strata, e.g. made of recycled materials
Start of planning

- Increased earth transition resistance e.g. through “Black trough”, “White trough” COMPLETELY encapsulated perimeter insulation present?
  - Nein
  - Ja
  - Lightning protection measures required?

  - Ja
  - Ring earther outside the floor plate/ insulation, grid width \( \leq 10 \, \text{m} \times 10 \, \text{m} \)
    - Material V4A, material no. 1.4571/1.4404
  - Ring earther outside the floor plate/ insulation, grid width \( \leq 20 \, \text{m} \times 20 \, \text{m} \)
    - Material V4A, material no. 1.4571/1.4404

  - Nein

- Individual foundations e.g. for structural supports present?
  - Nein
  - Ja
  - Reinforced foundations present?

  - Nein
  - Ja

- Equip each foundation with a foundation earther of \( \leq 2.5 \, \text{m} \) length
  - Material mit mindestens 5 cm Betondeckung verlegt

- Lightening protection measures required?
  - Ja
  - Equip each foundation with a foundation earther of \( \leq 2.5 \, \text{m} \) length
    - Material mit mindestens 5 cm Betondeckung verlegt
  - Nein

- Individual foundations e.g. for structural supports present?
  - Ja
  - Connect the foundation earthers of all the individual foundations into a closed ring, grid width \( \leq 20 \, \text{m} \times 20 \, \text{m} \)
    - Material V4A, material no. 1.4571/1.4404
    - Material with at least 5 cm concrete cover
  - Nein

- Reinforced foundations present?
  - Ja
  - Foundation earther, grid width of \( \leq 20 \, \text{m} \times 20 \, \text{m} \)
    - Material V4A, material no. 1.4571/1.4404
    - Material with at least 5 cm concrete cover
  - Nein

- Functional equipotential bonding conductor within the floor plate, grid width \( \leq 20 \, \text{m} \times 20 \, \text{m} \) and a connection to the reinforcement every 2 m
  - A connection of the foundation earther every 2 m to the reinforcement

- At least every 20 m, a connection between the ring earth and the functional equipotential bonding conductor. For lightning protection systems: At least one connection per down conductor
  - Connection parts for connection to the main earthing rail, arrestors of a lightning protection system, connection lugs should have a length of of least 1.5 m before entering the appropriate room.
  - The terminal lugs are to be marked striking during the construction phase for protection.

Measurement and documentation

Building Connections

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