

GUIDE FOR HIKING TRAILS IN LUXEMBOURG

Practice



Waymarking ■ Signposting ■ Standards

IMPRINT

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ORT Sud

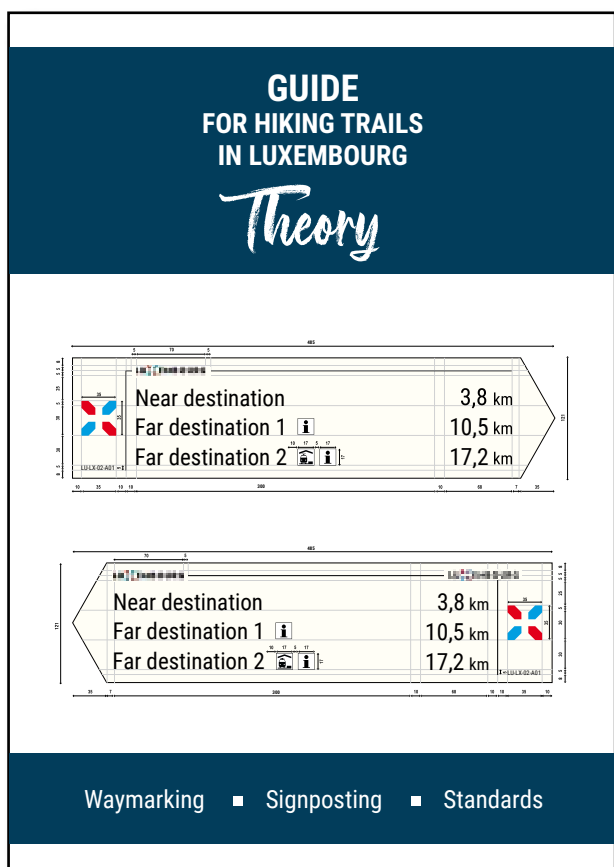


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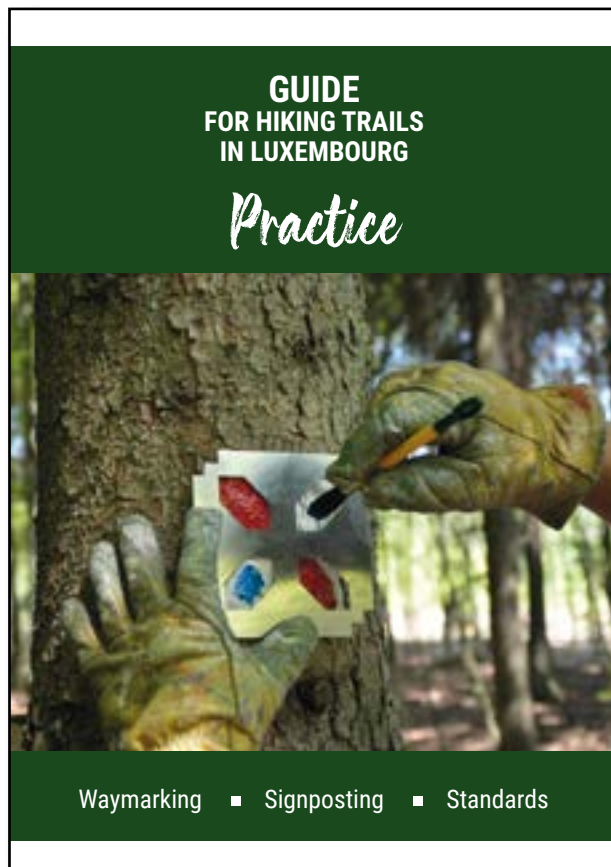


“Theory” is aimed at public authorities, “syndicats d’initiative” as well as stakeholders involved in and interested in hiking tourism in Luxembourg.

The introductory chapters (1-3) deal with the scope of the guide, responsibilities, the goal of a national waymarking and signposting system and explain some basic terms. Additionally, the framework for this guide is clarified.

The main part (chapters 4-5) presents the principles of waymarking and signposting for hiking trails, which are applicable for all of Luxembourg.

The guide also includes an overview of the current hiking trail categories in Luxembourg and goes into ongoing projects and the future implementation of new standards (chapter 6). A summary and a glossary conclude the document.



“Practice” supplements the theoretical part with all necessary information and steps for the waymarking and signposting of hiking trails on-site. This includes material recommendations as well as installation instructions.

This section is intended for people involved in work on hiking trails (waymarking, maintenance, installation of posts, etc.).

PRELIMINARY REMARKS

The standards for waymarking and signposting of hiking trails, as described in this guide, apply to all tourist hiking trails in Luxembourg.

They were developed jointly by the Ministry of Economy (General Directorate for Tourism) and the five regional tourist offices (Offices Régionaux du Tourisme, hereafter “ORTs”) in 2020.

This guide outlines the standards for a **nationwide uniform waymarking and signposting system** that are to be applied in the future.

All techniques and materials described in this guide are covered by a generic nature conservation permit that is valid for five years (Ministry of the Environment, nature conservation permit dated 25 June 2020). The application of these techniques and materials in nature is dependent on the starting situation (new signposting / waymarking or renewal of existing signage).

A nationwide implementation of the new standards will occur over the **medium to long term**. During the transition phase, there will be exceptions for some places and temporary arrangements for certain aspects if they cannot be implemented immediately. Additionally, established, coherent regional waymarking systems must be respected and cannot be altered immediately (e.g., the region of the Müllerthal – Luxembourg’s Little Switzerland). These exceptions are not further addressed in this document.

To begin with, existing waymarks and signposts remain applicable, so that standards can be adjusted gradually.

In the future, **funding** will be prioritized for the waymarking and signposting standards presented in this guide, provided they are not one of the exceptions mentioned above. In any case, waymarks and signposts for new hiking trails will only be eligible for funding after consultation with the responsible ORT.

These are always available for any questions regarding the content of this practical guide.

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1 WAYMARKING



Waymarking of hiking trails plays a **primary role** in orienting hikers. The waymarking of a hiking trail must allow visitors unfamiliar with the area to follow the trail without the need for digital or printed maps, without getting lost.

Therefore, the general rule for waymarking is:
Waymarking of hiking trails must be

- continuous and without gaps
- free of errors
- clear and visible.

1.1 MARKING GUIDELINES

The goal of the Ministry of Economy (General Directorate for Tourism) and the five ORTs is a medium- to long-term nationwide waymarking system of hiking trails following **Europe-wide standards**¹.

This means:

- Waymarking is visible from the approaching hiker's point of view ("in sight")
- Waymarking is done in both directions
- Use of continuity and confirmation signs
- Use of a white background ("mirror")
- Grouping of waymarks
- No directional information in the waymark

¹ "General Principles for Signing and Marking Footpaths", European Hiking Federation (ERA/EWV/FERP, 2015).

1.2 WAYMARKS

Waymarks on mediums such as trees or posts have a uniform form and size for all of Luxembourg:

- Rectangular, with a mirror
- 12 x 12 cm for painted waymarks
- 9 x 11 cm for thin marking plaques and thin marking plates (glued/screwed)
- 9 x 11 cm for stickers (e.g., for lampposts)



Hierarchy and Grouping

If multiple routes run on a single path, all waymarks are grouped together on one marking support (e.g., a tree or a marking post) and placed below each other. The order (hierarchy) of the waymarks has been standardized across the country:



- National hiking trail network
- Touristic products
 - Certified tourist trails (LQT, short LQT, "Éislek Pied", "Premiumwege")
 - Non-certified tourist trails (Ardennes-Eifel, Rhein-Maas, etc.)
- Local hiking trails
- CFL railway hiking trails
- Auto-Pédestre trails
- Themed trails
- Mountain bike routes (to clearly differentiate those from hiking, they are placed at a larger distance compared to hiking trail waymarks)

1 WAYMARKING

Mirror and Bundling

A white background (“mirror”) is used for all waymarks. The mirrors of the individual waymarks are separated by a gap of 1 cm, which improves their readability and the distinction between one another. The waymarks for mountain biking trails are placed with a larger gap below the waymarks for hiking trails, so that mountain bikers can recognize them more quickly (due to higher speed).



Use of Arrows

The use of arrows is possible, but will only be implemented where absolutely necessary, e.g., when the hiker's direction of travel changes abruptly (see Chapter 1.3).



1.3 WAYMARKING RULES

The quality of waymarking as basic infrastructure is regulated by the “General Principles for Signing and Marking Footpaths” of the European Hiking Federation (ERA/EWV/FERP, 2015). These principles are transposed to Luxembourg and made visible in the outdoors through adherence to the following waymarking rules.

Overall, the following applies:

Waymarks are placed at eye level and always in the hiker's line of sight so that they are clearly visible. Care should be taken to ensure that no vegetation obstructs the view of the waymark.

1. Waymarks must be placed in the direction of travel (“in sight”), i.e., at an angle of 45° to 90° to the trail, not parallel to it. The waymark must be fully visible to the hiker in the direction of travel.



correct: 90°



correct: 45°

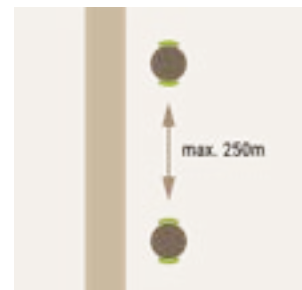


wrong:



2. Waymarks must be placed equally for both directions of travel. On longer stretches, they should preferably be on the same side of the path. Care must be taken to ensure good visibility and easy maintenance.

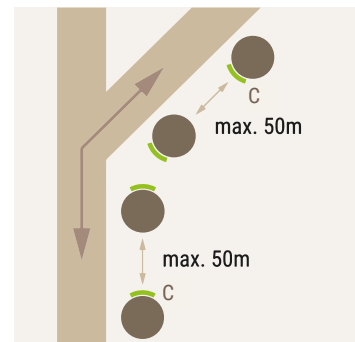
For trails without intersections or junctions, an additional waymark should be placed after a maximum of approximately 250 meters (confirmation effect). In areas with obstructed visibility, continuity signs placed at sufficient intervals provide reassurance to the hiker; the maximum distance between them should be about 50 meters.



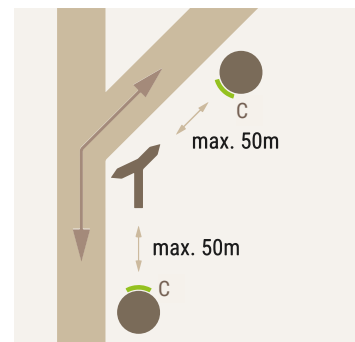
1 WAYMARKING

3. At every intersection/junction of hiking trails, the route of the trail must be clearly way-marked. All waymarks must be fully visible from the point of intersection/junction.

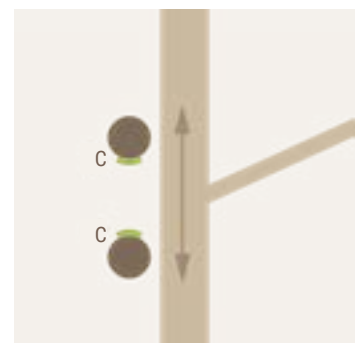
At a certain distance after the intersection/junction (maximum 50 m), each hiking trail must be clearly marked with a waymark ("continuity effect").



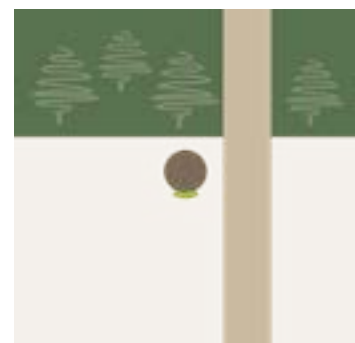
4. Continuity signs must also be placed at intersections with a signpost.



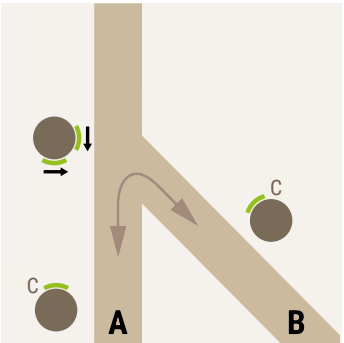
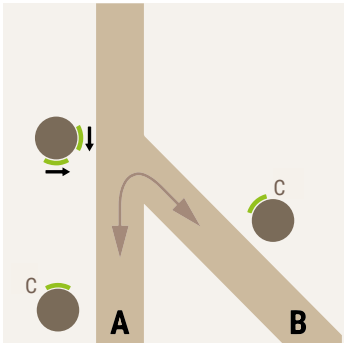
5. Where the path of a trail is obvious, continuity signs placed in the direction of travel behind the intersection/junction (in both directions) are sufficient.



6. Trails that lead into the forest after open stretches or villages must be waymarked at the forest edge.



7. For intersections/junctions with sharp turns that abruptly change the hiker's direction of travel, additional arrows will be used for waymarking.



Notes:

1 WAYMARKING

1.4 WAYMARKING TECHNIQUES

There are various techniques for applying waymarks, which are described below. **A principle decision should be made for each region between the two main techniques**

of painting and gluing. Other techniques (attachment to wooden posts, use of rails and use of stickers) can be applied complementarily.

1.4.1 PAINTED WAYMARKS

This technique consists in painting waymarks using paint (glossy varnish) on trees, rocks, or other surfaces. The specific color requirements are set by the respective ORT. Stencils made of galvanized sheet metal, aluminum, or plastic can be used for painting both the mirror and the waymark. The stencils should not be flexible, as they could deform too quickly during use.

downwards, to the dimensions of 12 x 16 cm. The arrow is painted in one of the trail logo colors. If the logo is multicolored, the respective ORT determines which color the arrow should be painted in.

In general, **a white mirror of 12 x 12 cm** is always painted. If an arrow is necessary, the mirror is extended by 4 cm

Toolbox

- Wire brush
- Sandpaper, e.g., grit P100
- Stencils for mirrors, waymarks and arrows
- Paints
- Rags for cleaning the stencils
- Solvents (paint thinner)
- Brushes (one for each color)
- Gloves

Requirement:

The paint should only be applied in dry weather (no rain, fog, or high humidity). The durability will be significantly reduced if the paint is applied to damp surfaces. Ideally, the temperature should not be below 10°C.

Step 1

When selecting the marking surface (tree, rock), ensure that no vegetation obstructs the view of the waymark. Clean the marking surface with a wire brush to remove coarse dirt, moss, etc. If necessary, carefully clean the bark and smoothen it with sandpaper to create a clean, even surface. Be sure to avoid damaging the bark!



Step 2

Place the stencil and apply the white mirror (12 x 12 cm) by dabbing with the brush (do not paint in strokes). The paint should not be too liquid, as it will otherwise drip.

Tip: Let new paint cans “breathe” for a while to allow some moisture to escape, which will thicken the paint. Apply the paint evenly from top to bottom in the area. To do this, press

the stencil firmly against the tree at the location where you are painting. Move the stencil slowly along the tree.

If an arrow is required at that point, a mirror of 12 x 16 cm should be painted. When multiple mirrors are painted vertically, leave a gap of 1 to 2 cm (depending on the texture of the tree) between them.



Step 3

The mirror must dry for at least one day before the colored symbol can be painted!



24 h

1 WAYMARKING

Step 4

For painting the colored elements of the waymark, proceed as in step 3. The colors are applied one after the other, and

the stencil should be cleaned in between with a cloth and some paint thinner.



Step 5

Painting arrows: arrows are always painted in the color of the waymark on the designated area within the white mirror (size 12 x 16 cm). A corresponding stencil for the arrow will be provided by the ORT.

The arrow is placed centrally below the waymark, and the paint is dabbed on as described in steps 2 and 4. If the waymark is multicolored, the respective ORT will specify which color the arrow should be painted in.



Corrections

If the paint has run or extended beyond the stencil, this can be corrected with the appropriate color (e.g., white or



brown). It is helpful to use a stencil as a guide for this.



Renouvellement de balisages existants

If painted waymarks have lost visibility over time, e.g., due to weathering, they must be refreshed. Depending on how much the tree has grown and the sign has been “stretched”, the waymark may either need to be completely removed (see below) and redrawn or simply repainted in the same location. To do this, first paint the white mirror and then apply the waymark as usual.



Retrait des balises peintes

To remove painted waymarks, the paint can first be sanded off with fine sandpaper. Then, the remaining paint can be

covered with brown paint. Some white paint can be mixed in to adjust the tone, making it lighter or darker as needed.



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1.4.2 GLUED WAYMARKS

Another method for applying waymarks is by gluing thin marking plates to trees using polymer adhesive (e.g., Bostik 2720 MS ©). These thin marking plates are made of flexible aluminum sheet, 0.5 mm thick, and are therefore bendable. They are covered with a printed film and measure 9 x 11 cm. The corners are slightly rounded for safety.

The background color of the thin marking plates is always white (RAL 9010). Arrows can be added manually if needed, using adhesive stickers. There is enough space on the marking plate for this, and it can be done flexibly during the waymarking process if it is determined that an arrow is necessary.

Toolbox

- Wire brush
- Sandpaper, e.g., grit P100
- Glue gun
- Adhesive cartridge
- Cloth for removing excess glue
- Spatula

Materials

- Thin marking plates
- Arrow-shaped stickers

Requirement:

The adhesive cures independently over 48 hours at temperatures above 5°C. Weather conditions should be considered, as the adhesive may require a longer curing

time. The ideal temperature for applying the adhesive plates is above 10°C.

Step 1

When selecting the marking surface (tree, rock), ensure that no vegetation obstructs the view of the waymark. Clean the surface with a wire brush to remove coarse dirt, moss, etc. If necessary, carefully clean the bark and smoothen it with sandpaper to create a clean, even surface. Be sure to avoid damaging the bark!



Step 2

Slide the adhesive cartridge into the glue gun.



Step 3

Adapt the shape of the marking plate to the tree's surface by gently pressing it against the tree. If needed, slightly bend the plate.



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Step 4

Apply a sufficient amount of adhesive to the plate. The glue should always be applied in a way that allows water to run off from the top, such as in an inverted "U" shape or three vertical lines.



Step 5

Press the plate firmly onto the tree and evenly distribute the adhesive. If necessary, gently move it to press the plate into the bark's texture. No adhesive should ooze out from the sides. If this happens, remove the excess glue with a cloth.



The thin marking plates should be installed in the specified order, with a gap of 1 cm between one another.



Removing glued waymarks:

To remove glued waymarks, gently lift the plate from the tree using a spatula. The adhesive typically adheres better to the plate than to the tree, so that the bark will not be damaged. Any remaining adhesive should be removed as needed. Be sure to avoid injuring the bark during the process.



1.4.3 WAYMARKING PLAQUES

Waymarking plaques are used to waymark trails in areas where no trees are available as marking supports, such as on farm tracks. The plaques are primarily screwed onto square posts that are installed for this purpose. They can

also be mounted on other supports (e.g., fences, fence posts, rocks, or stumps from felled trees) if available. Additionally, they can be attached to the round timber posts of signposts.

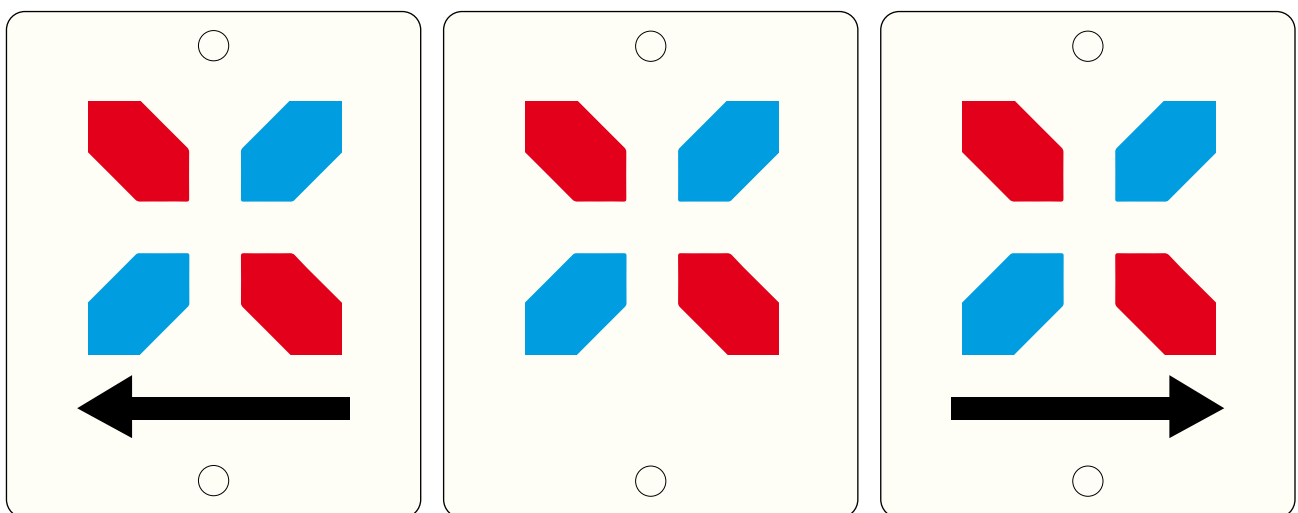
It is strictly forbidden to attach waymarking plaques or other markers to trees with screws or nails!

The waymarking plaques are made of 2 mm thick solid aluminum and have rounded edges. The background color is always white (RAL 9010).

The dimensions are 9 x 11 cm, designed to fit square posts (9 x 9 cm) so that the plaques do not protrude. The waymarking plaques have two holes, one at the top and one at the bottom, for screw attachment. The waymark is placed

so that there is still enough space below for an arrow to be added if needed.

Arrows are applied manually to the plaque if necessary (see Chapter 1.4.5). This can be done flexibly during the waymarking process if it is determined that an arrow is required. For rules regarding the use of arrows, refer to Chapter 1.3 Waymarking Rules.



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Mounting on square posts

Square posts have the dimensions 9 x 9 cm and a height of 130 cm (above ground). They are sloped at the top to allow rainwater to drain off more effectively. The posts are secured in the ground, for example, using a ground anchor (see Chapter 2.1).

Square posts should always be installed so that waymarks are visible from both directions. Additionally, care should

be taken that the placement of the post does not interfere with fieldwork (such as mowing, harvesting, etc.). If in doubt, the placement should be discussed on-site with the respective farmer or forester.

Example: Use of a square post as a marking support on a field.



Toolbox

- Drill (size 4.5 mm)
- Cordless screwdriver with Torx BIT TX25

Materials

- Square posts: 9 x 9 cm, length depending on mounting method (always 130 cm above the ground)
- Waymarking plaques
- Screws: Flat-head wood construction screws with cutting notch, 6.0 x 40 TX25
- Arrow stickers

Step 1

The square posts are secured in the ground using a ground anchor or similar (e.g., Ferradix ground anchor © Sträb).

Reminder: the square post must be installed in such a way that the waymark is visible from both directions. The orientation can be adjusted according to the terrain. Typically, the post is placed at a 90° angle to the path.



Step 2

Arrows are manually affixed to the waymarking plaques if needed (see Chapter 1.4.5). This can be done flexibly during the marking process if it is determined that an arrow is necessary. For rules regarding the use of arrows, see Chapter 1.3 Waymarking Rules.

Step 3

Holes should be pre-drilled using a 4.5 mm drill.

Take care to mount waymarking plaques **with a 1 cm gap** between one another on the square posts. For mountain bike trail waymarking plaques, a gap of 5 cm is recommended.



Step 4

Next, the screws are attached using a cordless screwdriver. It is important to ensure that the waymarking plaques are mounted **in the prescribed hierarchy** (see page 7).



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Mounting on signpost posts

The round timber posts of signposts can also serve as supports for waymarking plaques. This is useful when a trail, which is not signposted but only waymarked, intersects or runs parallel to one or more signposted trail(s).

However, it is not mandatory to use signpost posts for this purpose. The decision to use signpost posts should be made by the respective ORT.

Waymarking plaques can be screwed onto round timber posts, just like thin marking plates can be glued to the posts. This is also determined according to the standards of the respective ORT.

As with square posts, waymarks (whether screwed or glued) must be placed to be visible from both directions ("in sight"). This means that two waymarks per post must be attached – one for each direction, similar to waymarks on trees (see point 2 of the waymarking rules in Chapter 1.3).

The mounting of waymark plaques is similar to the mounting on square posts (adding arrows where required, pre-drilling holes, tighten with screws, cf. above).

The mounting of thin marking plates follows the same procedure as the gluing process for trees (adjusting the shape, applying adhesive, pressing them down; see Chapter 1.4.2).

Mounting with clamps in combination with a rail

Especially within towns, there are often no possibilities to paint waymarks or attach marking plates. In such cases, existing metal posts, such as lampposts or posts of street signs, can be suitable as supports.

To attach waymarking plaques, they are screwed onto a perforated aluminum rail (recommended size: 2 cm wide, 0.5 cm thick), which is then attached to the post using two clamps (top and bottom).

This method is particularly useful for metal posts with a standard diameter of 60 mm, which may be too narrow for the use of stickers (see next chapter). However, the technique can be applied to any metal post.

Toolbox

- Metal drill bit
(sizes 8.5 mm and 7 mm)
- Power drill
- Saw
- Cordless drill

Materials

- Aluminum rail
(2 cm wide, 0.5 cm thick)
for making pre-drilled rails
of various sizes
- Hose clamp with U-shaped holder
- Standard size 60 mm clamps (brackets)
- Screws:
Hexagon screws M8 and M6
- Waymarking plaques
- Arrow stickers

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Preparation: adjusting the length of the rail

The length of the rail can be adjusted based on the number of waymarking plaques needed, so that not every plaque requires its own clamp. The rails can be prepared in the workshop. To do this, holes need to be pre-drilled: for the spots where the clamps will be attached (top and bottom),



use an 8.5 mm drill. For the spots where the waymarking plaques will be attached, use a 7 mm drill. The distances between the holes should be measured based on the pre-drilled holes in the waymarking plaques. A 1 cm gap should be applied between the waymarking plaques.



Step 1

The waymarking plaques are attached to the rails using M6 x 16 hexagon screws and corresponding nuts. In addition, the clamps are attached at the top and bottom, using M8 x 20 hexagon screws.

Depending on whether the rail will be attached to a standard 60 mm street sign post or a lamppost with a larger diameter, different clamps should be used:

Variant a (for posts with varying sizes): U-shaped holder with adjustable hose clamp, which can be adapted to different sizes.

Variant b (for standard 60 mm posts): use a two-part clamp ("bride"). The front part is screwed to the rail, and the rear part is inserted from the top and fixed with a screw on the side.



Variant a: with hose clamp and U-shaped holder (size of the band can be adjusted)



Variant b: with standard size 60 mm clamp

Step 2



The waymarking plaque should be mounted on the post at an appropriate height (approximately 2 meters). If needed, arrows are manually added to the waymarking plaque before affixing it to the post (see Chapter 1.4.5).



This can be done flexibly during the waymarking process when it is determined that an arrow is necessary. For rules regarding the use of arrows, refer to Chapter 1.3 Waymarking Rules.

1.4.4 STICKERS

Another option for waymarking hiking trails is to apply stickers to existing supports, such as lamp posts (ideally not posts with a diameter ≤ 60 mm, as these are too thin), utility cabinets, etc.

The size of the stickers is 9 x 11 cm, matching the size of the waymarking plaques and the thin marking plates. They are applied at a 1 cm distance from one another on the lamp post, ensuring they are in the line of sight of the hiker.

If needed, arrows are manually added to the sticker (see Chapter 1.4.5). This can be done flexibly during the waymarking process when it is determined that an arrow is necessary. For rules regarding the use of arrows, refer to Chapter 1.3 Waymarking Rules.



For all methods of application (painting, gluing, waymarking plaques on square posts or round posts, waymarking plaques on rails, and stickers), the same waymarking rules apply!

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1.4.5 ARROW STICKERS

Arrow stickers are designed to be applied to waymarking plaques (2 mm thick), thin marking plates (0.5 mm thick), as well as to stickers. The use of arrows should be minimized, as waymarking can typically be accomplished without arrows. However, in certain cases, an arrow is helpful for trail orientation (refer to specific guidelines in Chapter 1.3 Waymarking Rules).

Arrow stickers are made from PVC adhesive film. Their color is always black, in contrast to painted arrows, where the arrow is in the color of the waymark and is drawn on the enlarged mirror.

The dimensions of the arrow sticker are 6 cm width, 1.4 cm height (only the arrow).

Step 1

Peel off the back film of the arrow sticker. Place the arrow in the correct direction, positioning it centrally beneath the waymark symbol. Arrows must only be applied pointing directly left or right, not diagonally up or down.



Step 2

After positioning the arrow, remove the protective film.



[illegible]

2 SIGNPOSTING



After waymarks, signposts are the second source of information and orientation for hikers. Signposts inform the hiker about a destination, as well as the direction and distance from the signpost location to the destination. Pictograms provide important supplementary information about the destination, such as indicating that a train station is located there.

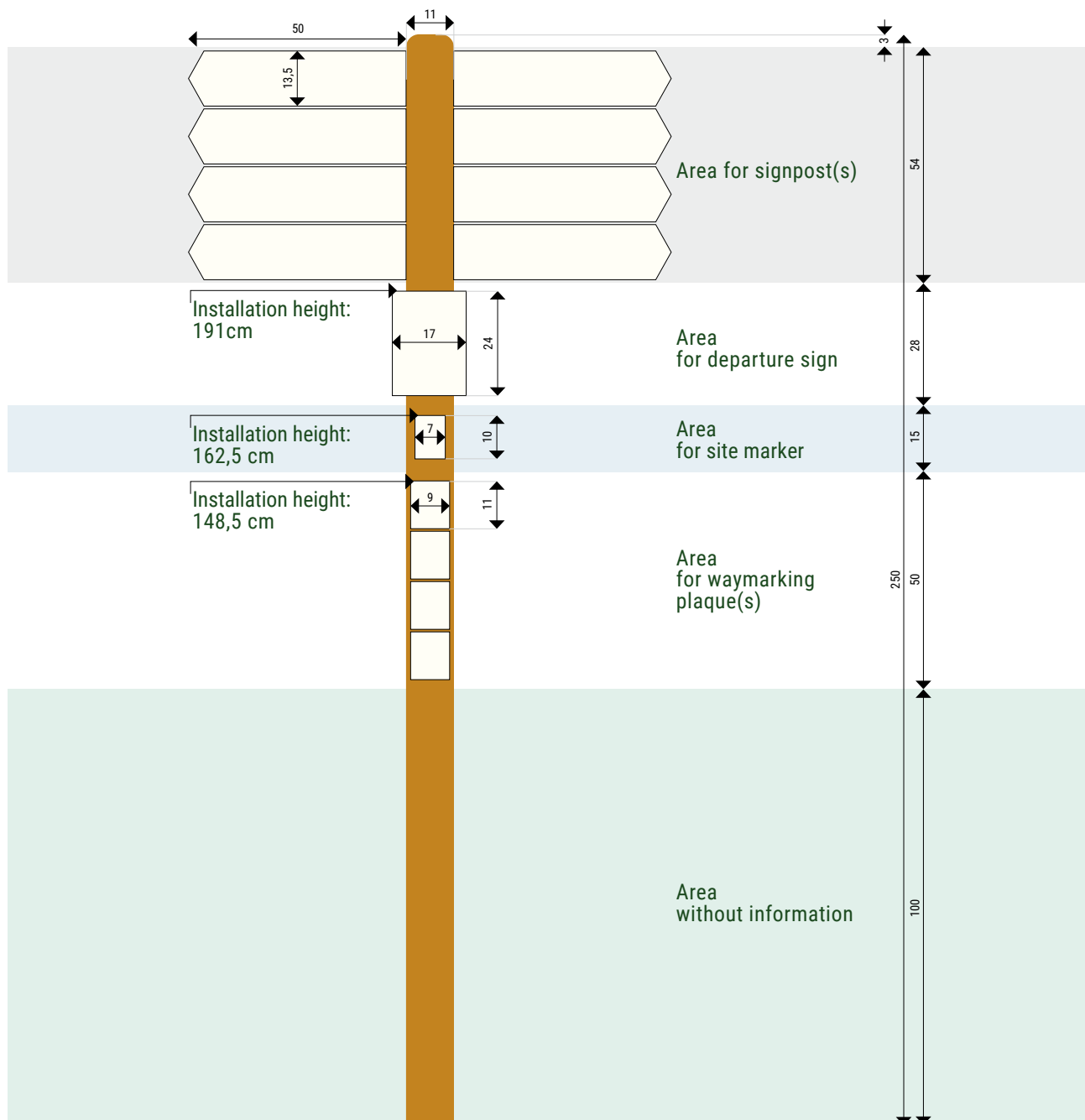
Each signpost on tourist hiking trails is either assigned to a route (e.g., Mullerthal Trail, Escapardenne Eislek Trail, Nat'Our Route, Felsenweg, local trails, etc.) or belongs to the national hiking network.

The fundamental differences between a route and a network are explained in the **“Guide for Hiking Trails in Luxembourg - Theory”** in Chapter 2.3. The waymark sign and the heading on the signpost allow the hiker to identify to which trail a signpost belongs.



There are different defined areas (see figure) for the installation of signs on posts. The height of each area remains the same, even if there are fewer than four sign levels or if there is no departure sign. If a fifth or sixth sign level is necessary, the lower sections are adjusted accordingly (downwards).

Departure signs are always mounted **parallel to the trail**, just like site markers. However, waymarking plaques are installed following the “**in sight**” principle, meaning that one plaque must be attached to the post for each direction.



2 SIGNPOSTING

The installation of a signpost post requires several steps, which are described below. It is important to note that the installation of the signpost films must be done **at least one day before the installation of the posts and signs**.

When placing the signpost post, sufficient **distance from the wayside** must be kept. Additionally, the locations should be chosen so that the signposts are clearly visible to hikers at junctions, while not obstructing the work of agricultural and forestry vehicles (consider the turning radius and coordinate locations with the users).

Moreover, along roads, the regulations from the **National Roads Administration**² must be considered. These are as follows:

Within towns and localities ("Lieux-Dits"):

- A minimum distance of 0.5 meters between the edge of the sign facing the road and the road's edge.
- The installation of the post must ensure an unobstructed passage on the sidewalk with a width of at least 1 meter.³
- The signs must not obstruct the view of road users on traffic or road signs.

Outside of urban areas:

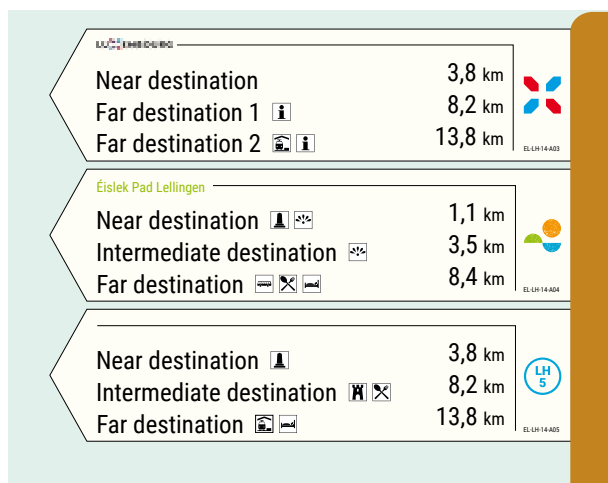
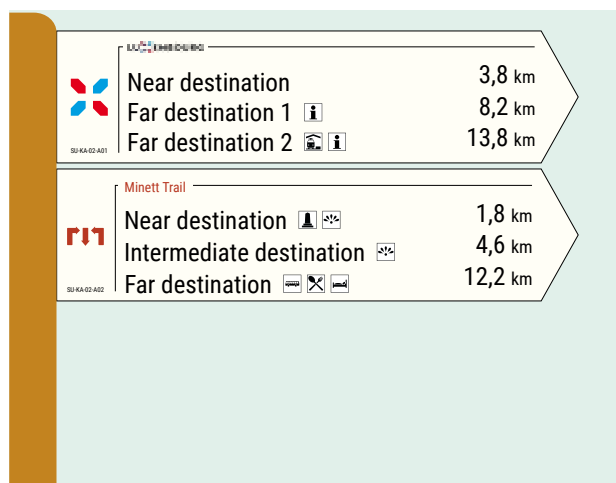
- Outside of towns, the posts must have a minimum distance of 2 meters from the paved road edge.
- It is prohibited to attach signs to trees, directional signs, town name signs, or the posts of those.

Hierarchy of Signposts

Signposts are mounted on posts in the following order, depending on the type of trail category:

- National hiking trail network
- Touristic products
 - with certification
 - without Certification
- Local Circular Hiking Trails

The specific order is determined by each ORT and can also be found in the location sheets.



² Ministère des Travaux Publics, Administration des Ponts et Chaussées (1998):

Permission de voirie. Cahier des charges 1ère partie: les permissions de voirie directes. Also refer to:

https://pch.gouvernement.lu/fr/administration/competences/permissions-voirie/permissions-de-voirie-directes/cahier-des-charges_1er-partie.html

³ Additionally, within urban areas, there is a requirement for a clearance profile (the height of the bottom edge of the sign) of at least 2 meters (maximum of 3 sign levels).

Tool Kit

- Pre-drilling tool
- Gas jack hammer
with chisel tip and driving tool
- Spirit level, specific for ground anchors
- Drill bit: 5.5 mm / 20 cm
- Cordless screwdriver
- BIT TX40
- Extension for BIT holder
- Flathead screwdriver
- Ratchet wrench and 13 mm socket
- Spray bottle with soapy water
- Lint-free cloth for cleaning the signs
- Felt sponge

Materials

- Wooden posts 2.50 m
- Ground anchors
- Base plate including 6 screws
- Screws:
pan-head wood screws
with cutting notch:
8.0 x 60 TX40
- Stainless steel nails
(Inox / galvanized / aluminum),
1 cm length

2 SIGNPOSTING

2.1 GROUND ANCHOR INSTALLATION

For the installation of signpost posts, ground anchors with a length of 80 cm and a standard tube diameter of 60 mm are recommended (e.g., Ferradix ground anchors © Sträb). These are compatible with the standard 60 mm diameter tube posts and can also be used for the installation of information boards or benches (among others).

A typical installation kit consists of the ground anchor, along with clamping or fastening technology, including screws and sealing materials. Depending on the technique, special tools may be required for installation and removal. Therefore, a standardized system is advisable.

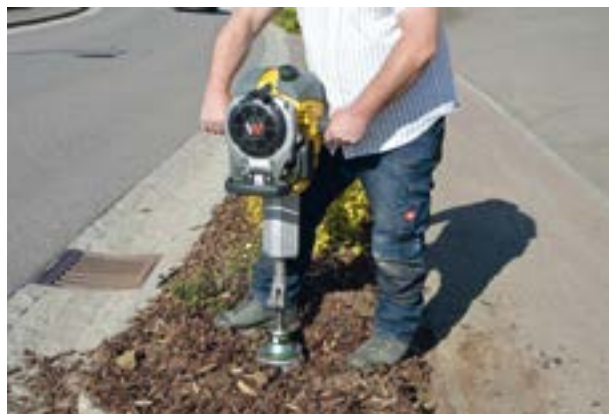
Note: when installing a ground anchor, the installation instructions of the respective manufacturer must be followed. This guide only provides a brief overview of the steps involved.

Step 1

To drive in a ground anchor, the spot usually needs to be pre-drilled. This can be done either mechanically or manually, depending on the type of surface. The hole should be conical in shape, with a larger diameter at the top than at the bottom.

Step 2

Using a suitable gas jack hammer, the ground anchor is hammered into the ground step by step until it is approximately 3 to 5 cm below ground level. Halfway through, as well as when the ground anchor is almost fully inserted, a spirit level should be used to check that the anchor is correctly aligned.



2.2 BASE PLATE INSTALLATION

The base plate is the connection between the post and the ground anchor, achieved through a plate that is screwed to the post from below with six screws and to which a tube post with a length of 80 cm is welded.

The advantage of using a base plate is that the timber post does not come into direct contact with the ground, which helps protecting it from moisture and wet conditions. As a result, the lifespan of the post is expected to be longer.

Use the following materials:

- Base plate with a tube diameter of 60 mm and a length of 80 cm (compatible with the ground anchor)
- 6 included screws

The base plate works for both types of posts (round posts and square posts).

Step 1

Pre-drill through the holes in the base plate. The specified angle must be considered. Drill size: 5.5 mm / 20 cm.



Step 2



2 SIGNPOSTING

2.3 ROUND TIMBER POST INSTALLATION

Step 1

If present, remove the sealing plugs from the four threaded openings using a small screwdriver or similar tool.

Step 2

Slide the clamping plate and sealing gasket onto the post, then insert the post into the ground anchor.

Once the post is rotated into the correct position (refer to the site plan!), the clamping unit is screwed in place. Tighten the screws using a ratchet wrench and a 13 mm socket.



2.4 FILM INSTALLATION

The printed films are to be applied to the signposts (on both sides). **This step must be completed at least one day before the post installation (in the workshop) to allow the films to properly adhere.**

Step 1

Clean the sign with a lint-free cloth.



Step 2

Spray a mixture of water and dishwashing liquid onto the sign. Apply the film to the wet surface of the sign, as this makes it easier to position the film, while preventing air bubbles from forming.



Step 3

Peel off the backing from the film and place it on the sign. Move the film until it reaches the correct position. The film must lie flat against the base of the sign and should not be

placed on the welded seam, as it may detach there. Leave a margin of about 1 to 2 mm around the film to prevent it from being torn off.



2 SIGNPOSTING

Step 4

Once the position of the film is adjusted, remove any water using a firm sponge (e.g., felt) by wiping the sponge from the inside to the outside of the sign.



Step 5

Dry the sign with a cloth and allow it to dry for at least one day before attaching it to the post.

Notes:

2.5 SIGNPOST INSTALLATION

Because of logistical reasons, the installation of signposts can only be carried out on-site. Furthermore, it is easier to install the signposts before the post is erected.

Arrangement of signposts

For each location, a site plan is provided, showing the order and angle at which the signposts must be attached to the post, as well as how the post should be positioned. The numbers of the signposts are the last two digits of the sign code, which can be found on each signpost:



Each sign has a unique sign code, consisting of the location code and a sequential number:

GU-MS-04-A01

Location code + signpost number

The site plan indicates the signpost numbers in the correct order as well as their positioning angle(s).



2 SIGNPOSTING

The signposts of one same trail are always mounted at the same height. Signposts of different trails are never mounted side by side at the same height, even if this creates a gap in one direction. The waymarks and the heading on the signpost allow for identifying the trail. Spur trail signs are always mounted at the top level, in addition to the signposts of the trail at the highest level in the hierarchy.

Step 1

The signposts are mounted flush on top of each other. Leave a gap of about 1 to 2 cm at the top edge of the post. Ensure that the height of the signposts is the same for all directions. A 5.5 mm/20 cm drill bit is required for drilling.



The top level is always occupied, meaning the signposts are always mounted at the top of the post. If, at a later time, a new higher level of signposts was to be added, the existing signposts would move down by one level.

Step 2

After pre-drilling, fix the signposts with screws. An extension for the BIT holder should be used to avoid damaging the film while screwing.



Alternative mounting option: clamps

Within towns, especially in protected heritage areas, the installation of wooden posts is not always possible. As an alternative, and in consultation with the relevant municipality as well as, if necessary, with the “Service des Sites et Monuments Nationaux”, existing metal posts (e.g., from pedestrian guidance systems – not road signs) can be used. In this case, the signposts are mounted on the posts using clamps.



Notes:

[illegible]

2 SIGNPOSTING

2.6 INSTALLATION OF SITE MARKERS

Every **signpost location** must be **clearly identifiable** in the field. To achieve this, a site marker is attached to each post. The site marker consists of a flexible aluminum sheet with a sticker (the same material as the thin marking plates) and is nailed to the post.

The site marker measures 70 x 100 mm and is made from a flexible aluminum sheet with a thickness of 0.5 mm, which can be adjusted to the shape of the post. The sheet is covered with a printed film (digital print on the film with a protective laminate) applied by the manufacturer.

Once the post is installed, the site marker is mounted. It should be mounted **parallel to the trail** at a **height of 1.65 m** (centered).

When installing, ensure that the location code on the site marker matches the first six digits of the signpost numbers.

The site marker is attached to the post with four small nails (stainless steel, e.g. inox, galvanized, or aluminum). First, attach the two nails on one side, then on the other side, so that the marker adapts perfectly to the shape of the post.



XX-YY-01

Name of the location

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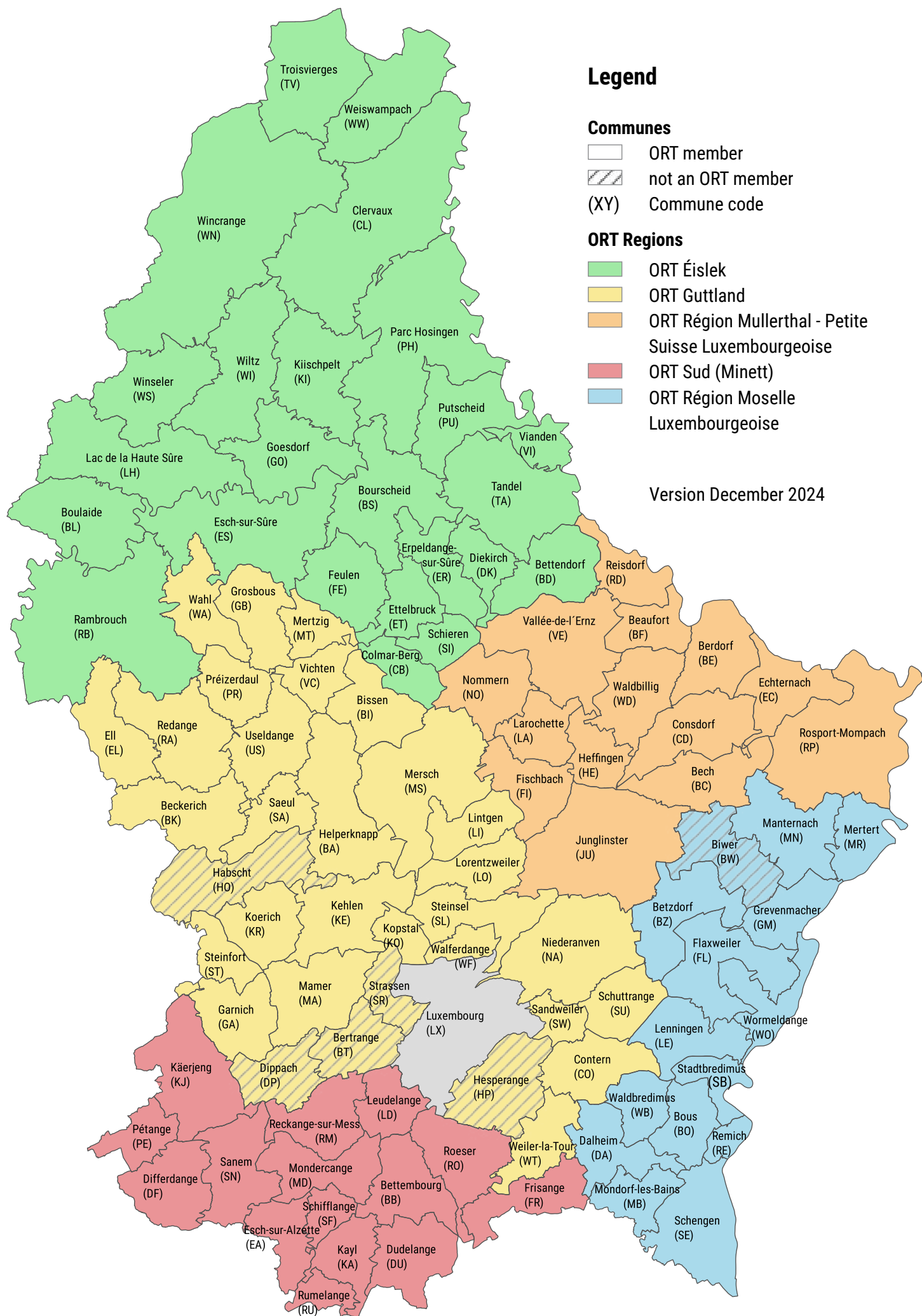


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