How to make an Antenna loop in the ice for Transponder timing

If transponders are used for timing or lap counting at training sessions/competitions, an Antenna Loop must be made in the ice. This is for registering the transponders when crossing the antenna. There are 3 different situations for assembling the Antenna Loop with each having its own advantage or disadvantage.

Most comfortable way of making the Antenna Loop

Most comfortable way assembling the Antenna Loop is during the period that there is no ice in the ice rink. The disadvantage is that in the period after doing this and before the skating season starts the wire could be damaged.

Procedure: put the wire on the floor and attach it with GAFFA-tape (never use DUCT-tape as this gives glue spots on the floor where the ice does not fasten to the floor anymore. The end of the wires can go under the boarding to the outside.

Second best way of making the Antenna Loop

The second best way is to attach the Antenna Loop to the floor while the Ice rink is busy making Ice. The Ice rink first makes a thin layer of ice and then painting this white. When this white paint has dried they put the Ice hockey and shorttrack lines and circles on the white layer with paint or coloured paper.

Procedure: put the wire on the paint layer; keep it with several people in position and spray water over it. Keep the wire in position until it is frozen to the floor and cannot move anymore. Then the end of the wires can still go under the boarding (if space available) to the outside or drill 2 holes as low as possible in the boarding.

Making an Antenna Loop in the ice during the season

If an Antenna Loop must be made in the ice during the season a slot must be made in the ice. This slot must be as narrow as possible (1 or 2 mm) in order to keep the wire, during the freezing, clamped into it. If the wire does not clamp enough into the slot you can push it, until frozen, to the bottom with a small piece of wood. The wire must be deep enough in the ice to fore come that it can be cut with a skate.

Procedure: use a circle saw to make a small slot in the ice. Best is to use a long wooden bar to keep the slot as straight as possible. Depending on the situation the wires can go under the boarding, through 2 small holes to the outside or glued with tape at the inside of the boarding to the top.

What to do with the wires going to the outside of the boarding

If you make the wires going under the boarding or trough 2 small holes to the outside the wire can break very easy at this position when frozen. For this reason make an extra layer of material around the wire. Do this by using 10 or 20 cm cable sheath as an extra layer of the fragile part of the antenna wire.

Connection box for Antenna Loop

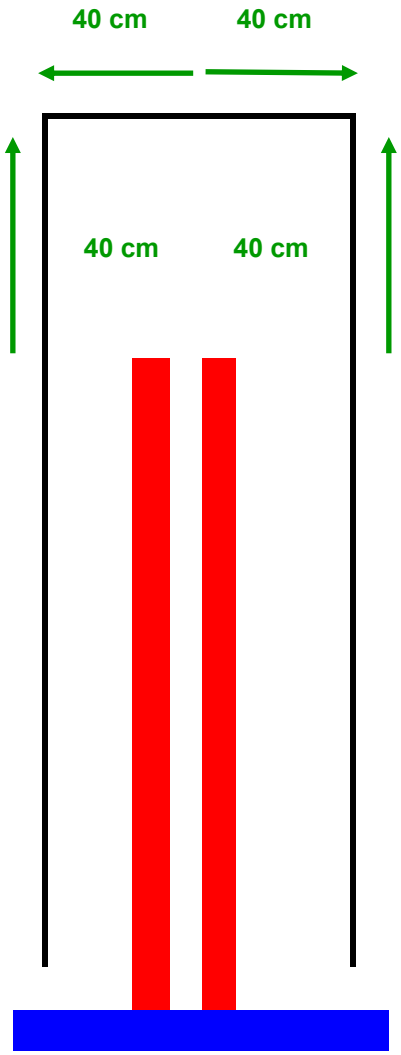
At the outside of the boarding you can make a little plastic or metal box screwed against the boarding. The antenna wires go into this box. With 2 female banana connectors on this box it is very easy to connect the rest of the equipment to the Antenna Loop. In case the wire is only glued with tape to the top of the boarding a fixed connection box is not necessary. On the top of the boarding then the antenna wire must have a spare length of 1 meter.

Position of the Antenna Loop on the track

In general the Antenna Loop is positioned around the finish line. In case also an other system with an Antenna Loop is used for training sessions during the season, the Loop for competition timing can also be positioned at a place some meters before the finish line. Do NOT put different Antenna loops over each other or too close together as this can influence the functioning of both systems in a bad way. The Loop can stay in the ice for using it an other time again.

The Antenna Loop used for the competitions is a Chronolec system. It is an electrical wire with a certain resistance and a diameter of 0,75mm2. Antenna loops from different branches like Mylaps or Chronolec can not be used by each others systems.

The exact size of the Antenna Loop can be seen in the diagram here under. The loop is 80 cm wide and is 40 cm longer then the length of the Finish line. The Finishline is 7+1,5m= 8,5 meter (on a standard track).



Antenna loop