

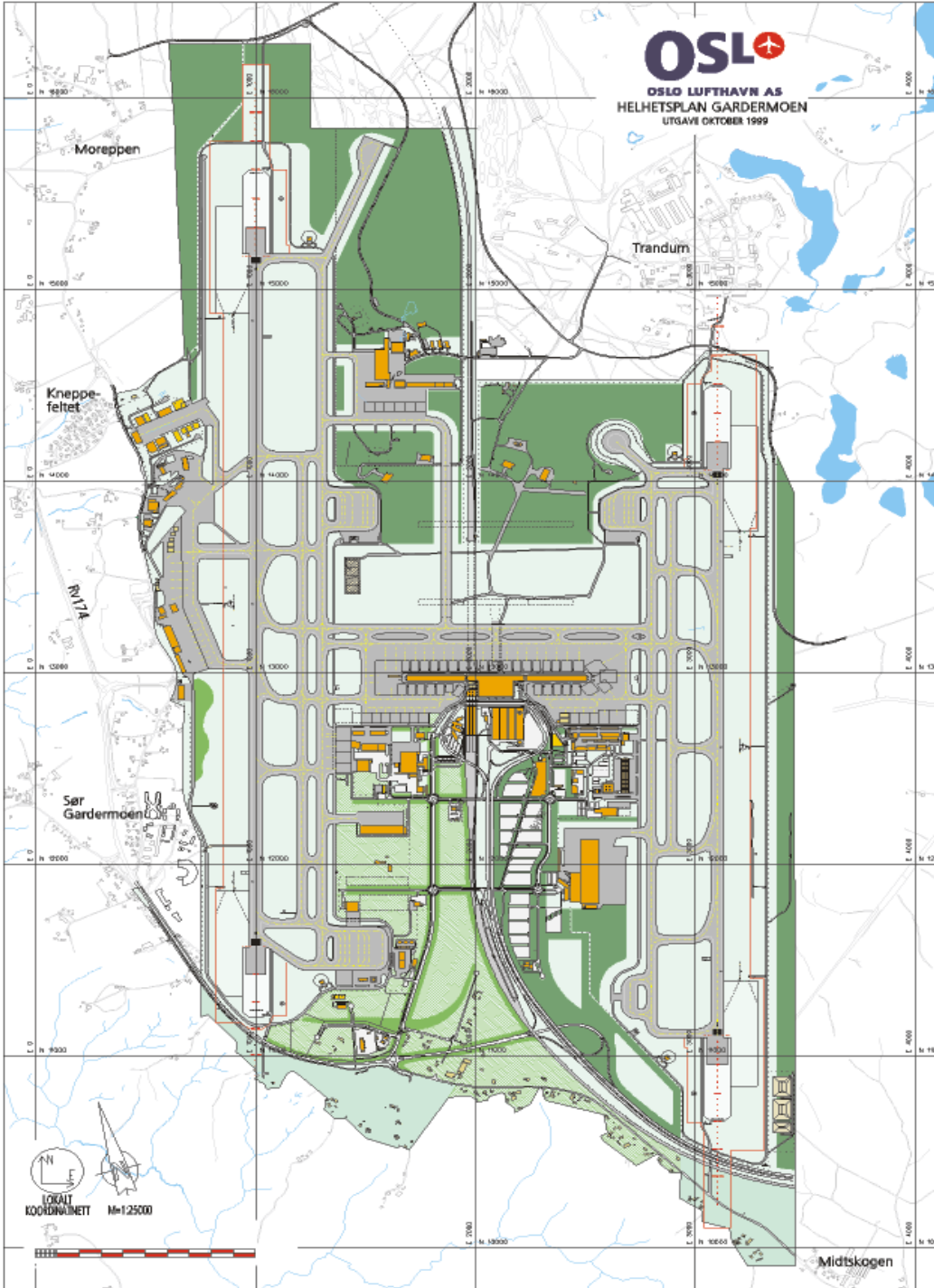
Experiences with Grooved Runways

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Oslo Airport

- 2 runways
- 200.000 movements
- 18 mill pax
- 6-12.000 Aircraft
Deicing Operations
- 40-75 days with RDF
Treatment

Background

- **Runways: based on asphalt concrete**
- **Temperature range in asphalt: -35 °C to +60 °C**
- **ADF and RDF: negative impact on the asphalt**
- **Strict environmental requirements**
- **RDF: corrosive effect on aircraft**
- **Strict safety requirements (friction)**

Objective

Experiences with grooved runways indicates reduced consumption of RDF!

Will grooved runways:

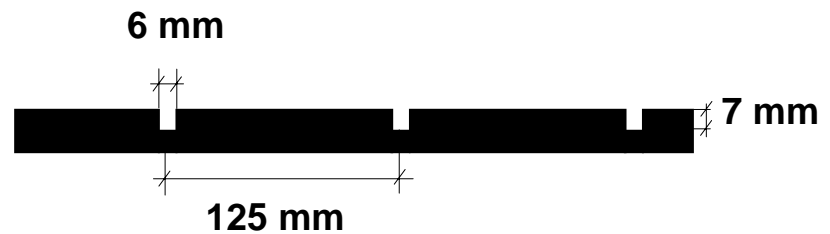
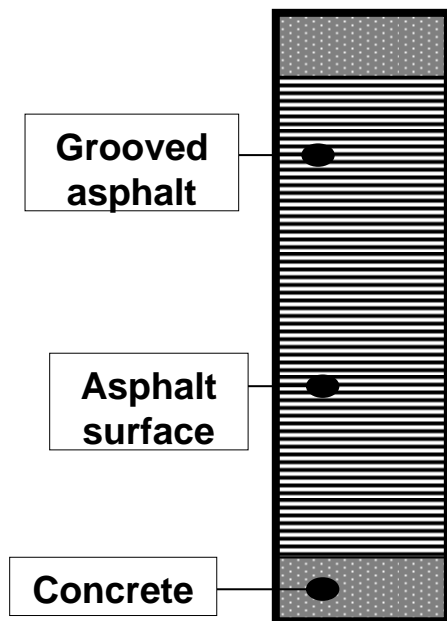
- **Reduce the consumption of RDF?**
- **Improve the environmental situation?**
- **Reduce the corrosion effect on aircraft?**

Important aspects

- RDF consumption
- Runoff from the runway
- Impact on aircrafts
- Friction conditions
- Abrasion of grooved runways
- Impact on vehicles

Comparison between grooved and not-grooved runways

Grooving - principles



Depth and width of grooves

Runway Alpha

RDF Consumption

Experiences 2006 – 2007

	Season	Specific Consumption ml/m ²	
Runway Alpha	2006-2007	19	GROOVED!
	2005-2006	23	
	2004-2005	19	
Runway Bravo	2006-2007	20	
	2005-2006	22	
	2004-2005	22	

Operational effects

Experiences 2006 – 2007

- **Increased runoff (reduced impact on aircraft?)**
- **Improved performance during heavy summer rain**
- **Re-freezing problems are observed**
- **The grooves have not deteriorated during one winter season**

What's next?

How can changes in aircraft impact be evaluated?

Further operational experience is needed to draw final conclusions