



XIII
INTERNATIONAL
WINTER ROAD
CONGRESS

QUÉBEC, FEBRUARY 8 TO 11, 2010



Québec 

SUSTAINABLE WINTER SERVICE FOR ROAD USERS

Tanker for hot de-icing of roads and highways

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MAIN CONTEXT

the Maintenance Centers situated along roads and highways in Italy are equipped with brine solution storage/self-preparation facilities



In both cases thermal properties are completely lost

ADDING THERMAL AND MECHANICAL ACTION

Objectives:

- 1.obtain the highest efficacy and rapidity in melting ice and chunks of compressed snow on the road
- 2.perform production and distribution of de-icing solution with only one tanker equipped with one motor-driven pump
- 3.use one motor-driven pump with a reduced power with respect to the requirements of actual melting systems
- 4.facilitating maintenance on bridges and viaducts (reduced thermal inertia of the structures)

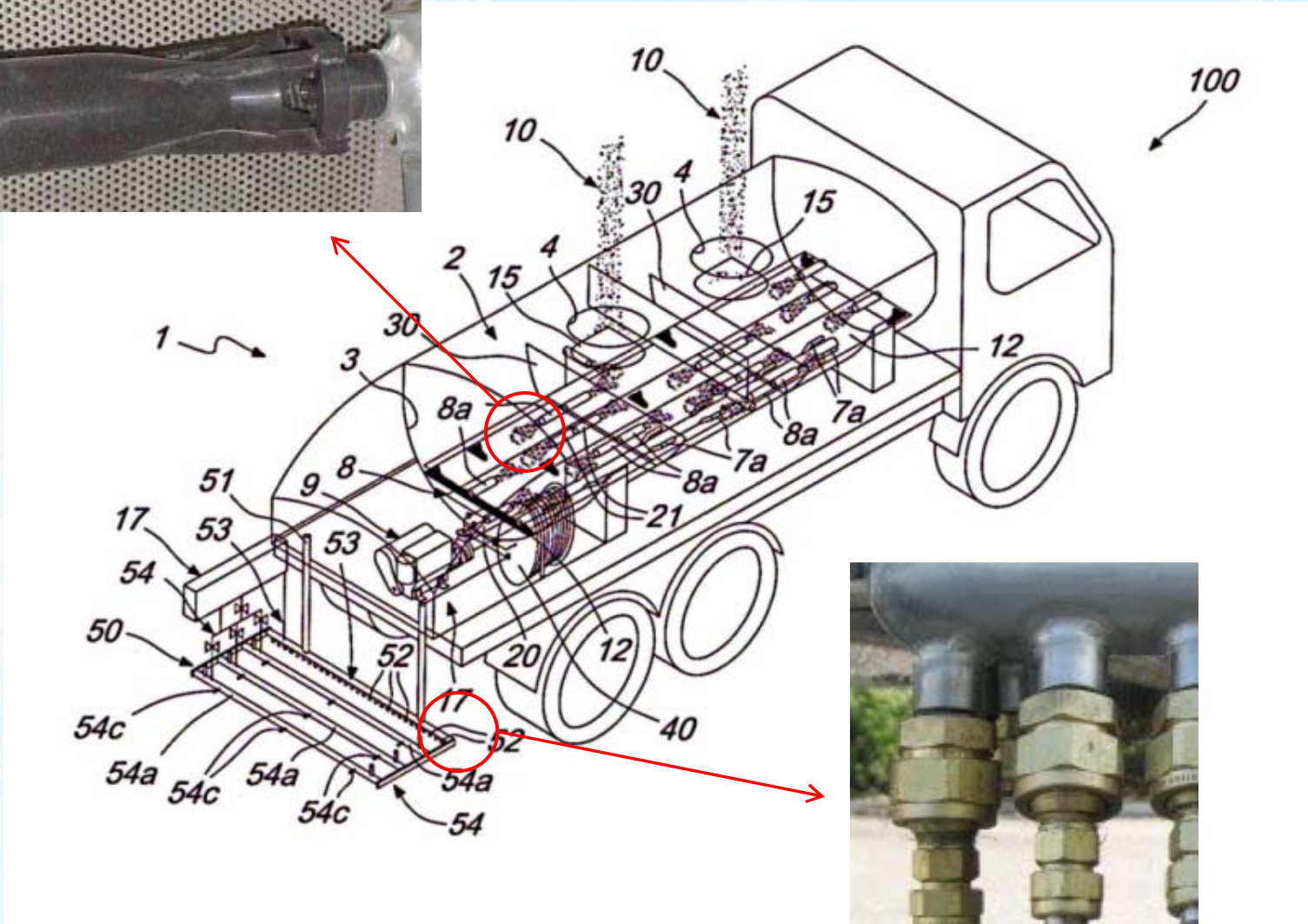
A NEW TANKER FOR HOT DE-ICING OF ROADS AND HIGHWAYS

It looks like a normal brine spreader (therefore useful for normal prevention) but:

It's able to exploit the thermal action derivative from the production of the solution

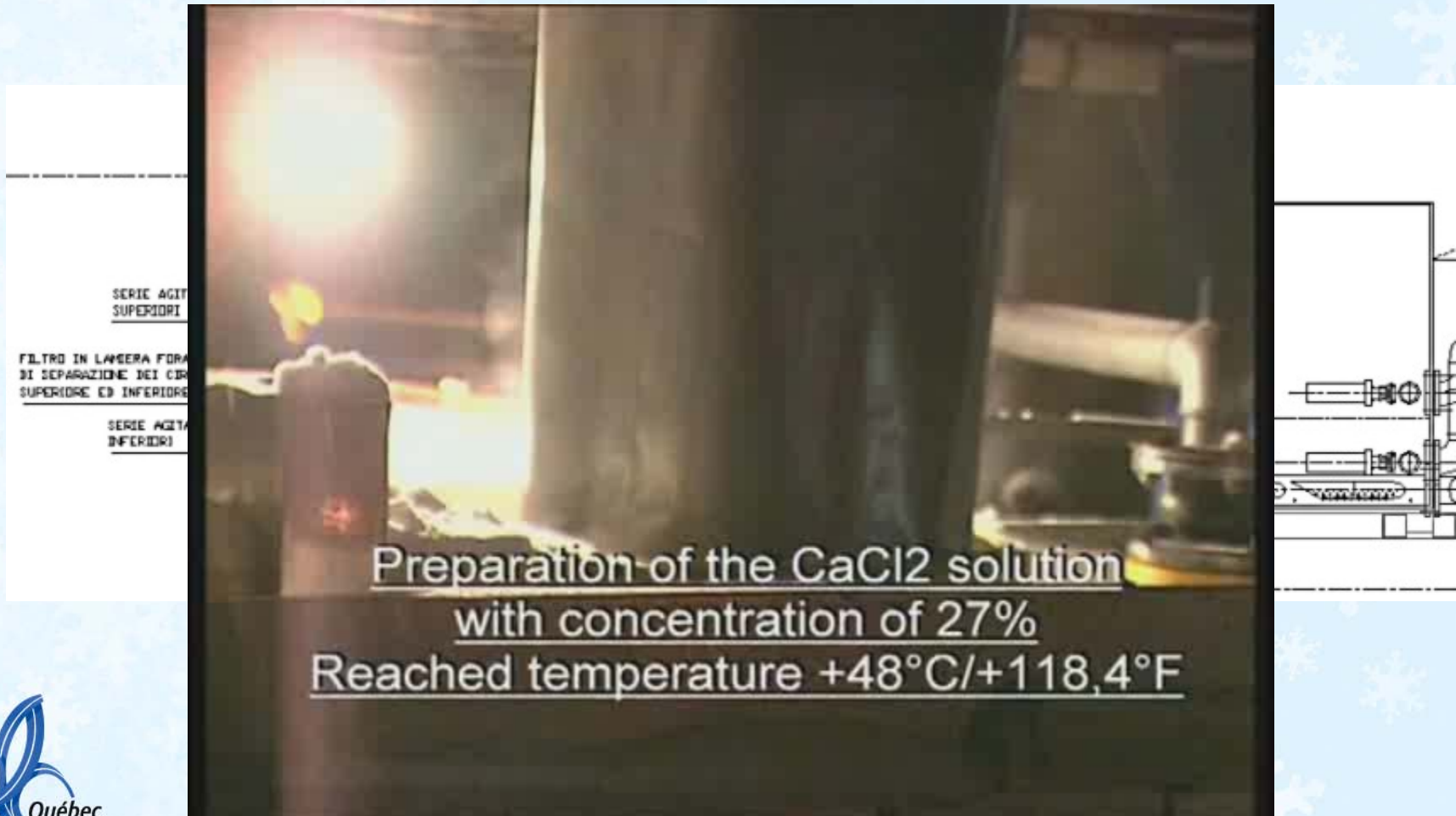
It adds to the thermal and chemical action a mechanical action derivative from the new patented sprinkling bar

THE TANKER DIAGRAM



THERMAL ACTION

Calcium chloride solution will be produced in ~10minutes during the the trip, arriving to the site to be treated with the highest possible temperature (40/50 ° C)



MECHANICAL ACTION

The mechanical action is performed by a special sprinkling bar composed by 47 rectilinear jet nozzles.

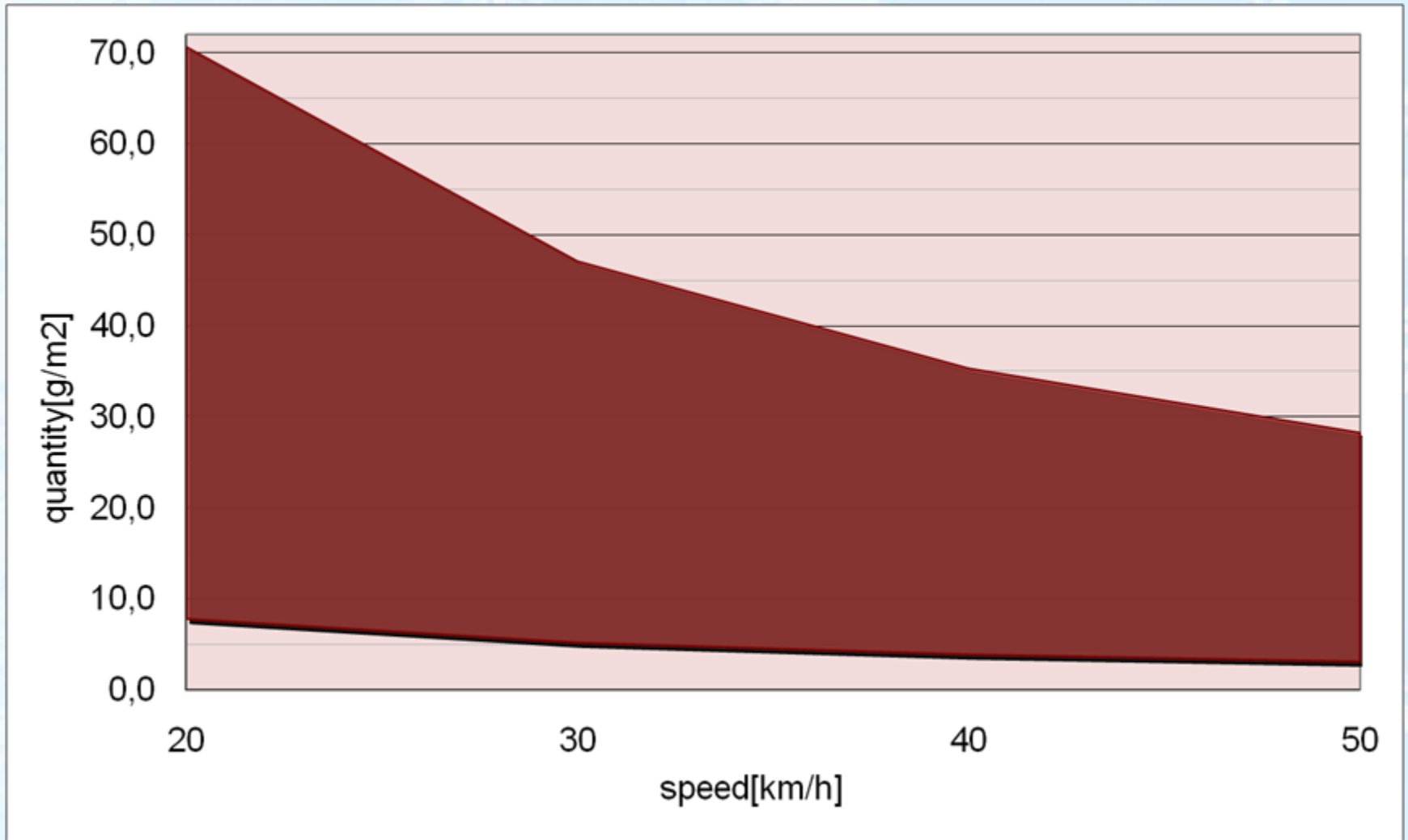


The special
down to the
pavement a

penetration
between the



PERFORMANCES



ECONOMIC AND ECOLOGICAL ADVANTAGES

1. reduction in the labour cost for minor road maintenance
2. reduction in mileage costs of the maintenance vehicles
3. substantial reduction in the cost of salt
4. reduction in the cost of maintenance of road and highways structures
5. reduction in time for towing vehicles
6. notable reduction in harmful exhaust emissions produced by maintenance vehicles
7. significant reduction in pollution caused by the distributed salt

THE SPRINKLING TANKER

