

# CAPTG Pavement Workshop Case Study YVR South Airfield Upgrade





# Scope of Work







# Runway Milling and Paving

- Asphalt Mix Design and Properties
- Plant Equipment
- Paving Equipment
- Milling Equipment
- Grade Control
- Transverse Slopes/Profile
- Profilograph
- Quality Control Program during construction
- Field engineering



## Runway Electrical

- Types of Inset Light Base Details – New
- Types of Inset Light Base Details – Existing
- Orientation/Elevation Tolerances
- Runway Shoulder Pulpits and Ducting
- Coordination – Milling and Paving

# Technical Specifications

- Contractor Paving Plan
- Asphalt cement: PG 64-22
- Reclaimed asphalt pavement
  - Max 15% lower course
  - Not permitted on surface course
- Aggregate gradation (19 mm)
- Anti-stripping additive (if required)
- Asphalt Mix Design – 75 blow
- Tensile Strength Ratio -ASTM D4867

# Technical Specifications

- Onsite asphalt plant mandatory
- Minimum temporary asphalt mix storage
- Standby Equipment – Pavers, Milling
- Test Section
- Asphalt Crack Control Joints in PCC overlay areas
- Grade Control Systems – Topcon Paver System Four, Paveset or Approved Equivalent

<b>Asphalt Mix Physical Requirements</b>	<b>Airfield Pavements</b>
Marshall Stability at 60°C kN, minimum	12.5
Flow Value, mm	2-4
Air Voids in Mixture, %	3-5 surface course
Voids in Mineral Aggregate, % minimum	14 surface course
Asphalt content, % by dry weight aggregate	> 5.0
Voids filled with asphalt, %	65-78
Film thickness, $\mu$ [DKH2]m	7.5 minimum
Dust to asphalt ratio	0.8–1.6
Fine aggregate angularity	45 minimum
Tensile strength ratio, % (TSR)	80 minimum

# Contractor QC Materials Testing Schedule

- Asphalt Aggregate
- Testing During Aggregate Crushing
- Asphalt Products Tests
- Testing During Asphalt Mix Production
- Test During Asphalt Paving for Density/Compaction
- Pavement Smoothness/Profile Testing (Profilograph)
- Pavement Smoothness Testing (Straightedge)





CAT

AP-1050B

RA BLACKTOP

WARNING  
KEEPING HANDS AWAY FROM THE  
MACHINE IS THE ONLY WAY TO  
AVOID INJURY OR DEATH.  
DO NOT WORK NEAR THE MACHINE.

Control panel with red indicator lights







CAT

AP-1050B

BA BLANKTOP





















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Engineering**

*GLOBAL PERSPECTIVE.  
LOCAL FOCUS.*







# Conclusion