



Sustainable Asphalt:

Design & Performance



Asphalt R&D Facility



Laboratory Design

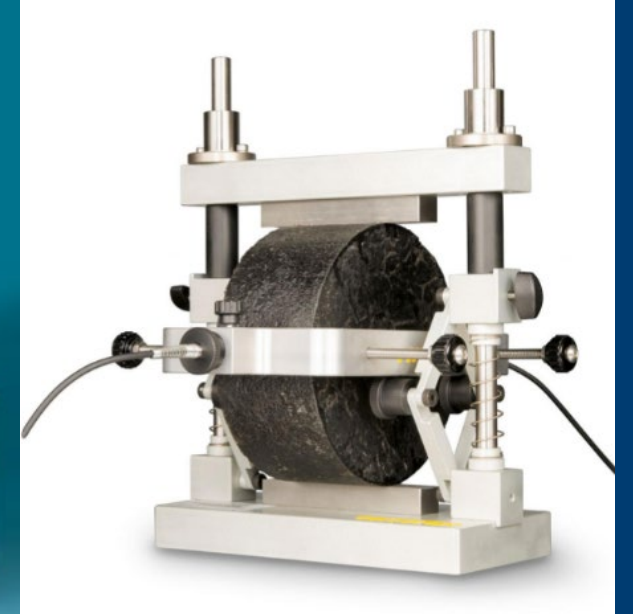


Mix Optimisation
& Performance



Stakeholder
Collaboration

Established 1999



Asphalt Sustainable Solutions



**Asphalt
100%
Reusable**



**Preserves
Natural
Resources**



**Reduced
Carbon
Emissions**



**Approved
Constituent**



**RAP
Reuse
Systems**



Reclaimed Asphalt (RAP)

60% Reclaimed Asphalt (RA) Innovation Trial

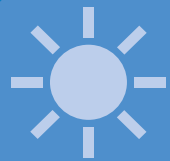


Asphalt Sustainable Solutions

Warm Mix



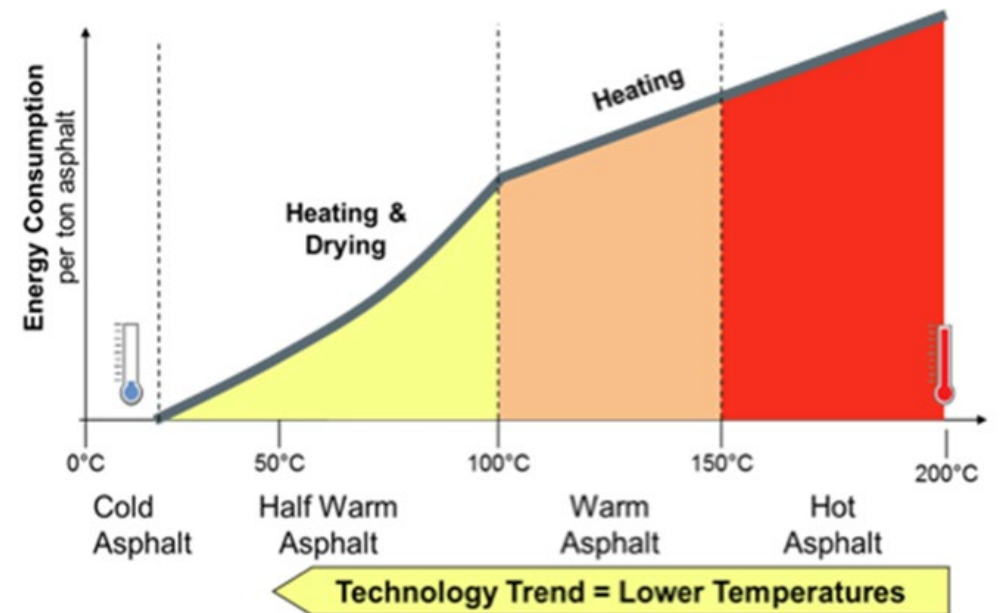
Lower Production Temperature



Decreased Energy Consumption



Improved Compaction & Workability



What is an EPD?

A Declaration of Life Cycle Analysis & Resource Use Indicators

More than just a CO2 Indicator!



40 Indicators in Total:

➤ Core Impacts

Global Warming Potential, Ozone Depletion, Acidification, Abiotic Depletion Potential

➤ Resource Use

Renewable & Non-Renewable Energy, Secondary Fuels, Fresh Water

➤ Waste

Hazardous & Non-Hazardous, Radioactive.

➤ Outputs

Re-Use, Recycling, Energy Recovery



Asphalt Sustainable Solutions

Carbon Footprint Calculator




Carbon Footprint Report




Indicative CO₂e
(GWP-tot indicator from EPDs)





CARBON FOOTPRINT



roadstone
A CRH COMPANY

Roadstone Limited
Sustainability Department
Fortunestown
Tallaght
Dublin 24
D24 PXX2

Customer Name: Date:

Works Location: Contract Number:

Project Carbon Emissions

Project Carbon Footprint:	Total Carbon (tCO ₂ e)	67.66
The sum of sections 1-3 below	Total Carbon Saved (tCO ₂ e)	12.42
	Carbon Reduction Achieved (tCO ₂ e)	15.5%
	Carbon per tonne (tCO ₂ e/t)	0.052

1. Material Emissions (Cradle-to-Gate)

Material Embodied Carbon <small>(includes embodied carbon of the asphalt constituents, fuel consumed transporting constituents to the asphalt plant & energy used in asphalt production)</small>	Asphalt Quantity (tonnes)	Cradle-to-Gate (tCO ₂ e)
	<input type="text" value="1301"/>	<input type="text" value="65.58"/>

2. Material Transport Emissions

Transport of Material to Site <small>(includes fuel consumption of HGVs transporting material to site)</small>	(tCO ₂ e)
Total Transport CO₂e emissions	<input type="text" value="0.48"/>

3. Operational Emissions

Surfacing Activities - see 'Operational Emissions (S)' tab for details <small>(includes on-site fuel consumption of plant and mobilisation of plant and labour)</small>	(tCO ₂ e)
Total Surfacing CO₂e emissions	<input type="text" value="1.15"/>

Planing Activities - see 'Operational Emissions (P)' tab for details <small>(includes on-site fuel consumption of plant and mobilisation of plant and labour)</small>	(tCO ₂ e)
Total Planing CO₂e emissions	<input type="text" value="0.45"/>