

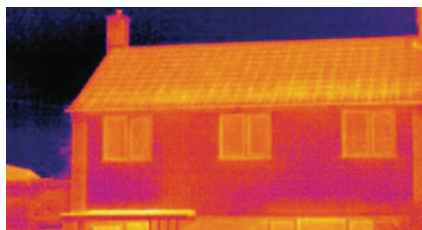


Sustainable Construction for Future Generations

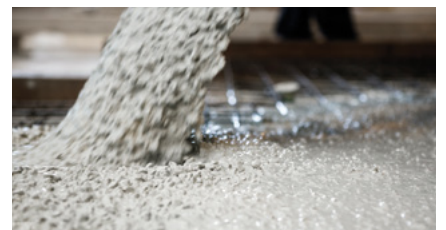
Environmental Challenges of the Construction Industry



Contributes to
30% of the global green
house gas emissions



Consumes up to
40% of the worlds energy



Concrete:
most widely used man-made
material

Why is Sustainable Construction Important?

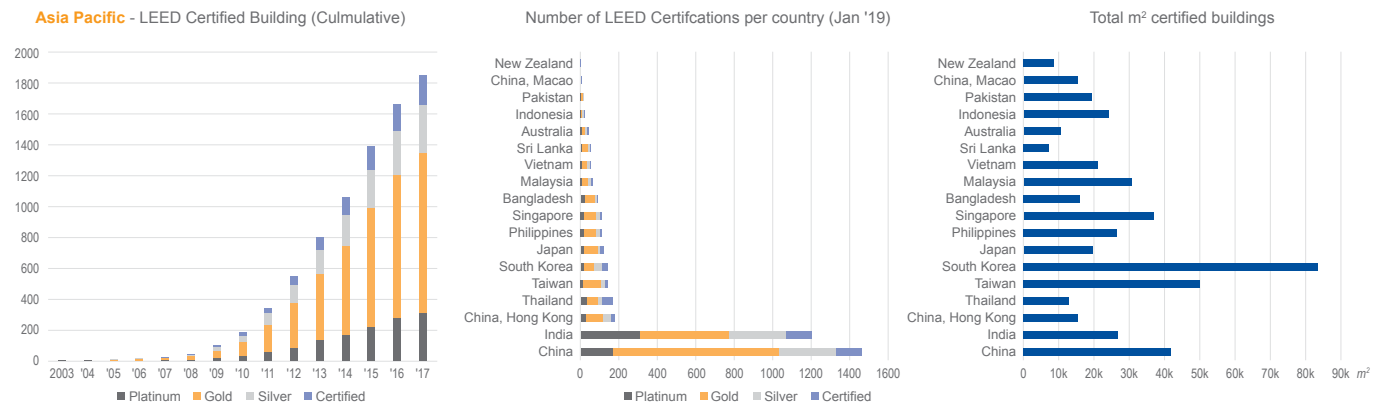
- » Green projects offer significant value
- » Sustainable buildings result in lower cost of ownership for owners

2018 Study	Singapore	Vietnam	India	China (Mainl.)	HK	Australia
Decrease in 5-year operating costs	12%	22%	15%	9%	9%	27%
Payback time for green investment	7 years	7 years	7 years	5 years	9 years	7 years

Source: Regional Smart Market Reports World Green Building Trends 2018, Dodge Data and Analytics

Sustainable Construction is Accelerating in Asia Pacific.

- » Worldwide, green buildings are on the rise. The Asia Pacific countries are no exception



How can our Solutions Support Sustainable Construction?

Certification Aspects	Our Solutions	Their Contributions	Green Building							Health
			LEED	CASBEE (Japan)	NABERS (Austr.)	IGBC (India)	G-SEED (Korea)	Three Star (China)	Green Mark (Singap.)	WELL
Indoor Air Quality	Ucrete and MasterTop floorings	Low VOC, hygiene	•	•	•	•	•	•	•	•
Materials & Resources	Green Sense / Smart Dynamic concrete	Lowering emissions, less water, recycled content								
	Ucrete and MasterTop floorings	Durability, ease of maintenance	•	•		•	•	•	•	•
	MasterProtect	Durability, ease of maintenance								
	Many of our systems	Product declarations, Life cycle analysis								
Health and Well-being	Ucrete and MasterTop floorings	Low VOC, hygiene, cleanability, acoustic comfort	•		• Office only	•				•
	Waterproofing	Green roof, outdoor space usage								
Energy Use	Waterproofing	Energy demand reduction – green roof	•	•	•	•	•	•	•	
	Insulation systems, sealants	Energy demand reduction								
Innovation	Prefabrication, Master X-SEED	Site safety, resource efficiency	•			•		•	•	

How we Enhance the Sustainability of Concrete



Typical challenges we mastered with MasterGlenium, MasterEase and Smart Dynamic Concrete (SDC) admixtures:

- » Reducing green house gas emissions
- » Tight construction schedule, faster solutions through high early strength development
- » Use of manufactured / local sands and recycled aggregates
- » Composite systems including alternative reinforcement for resources savings

Making our Waterproofing Systems the best Choice



Multiple possibilities with innovative MasterSeal waterproofing systems:

- » Long durability for deep basements and roofs
- » Realization of roof gardens as recreational/ ecological features
- » Freedom of design
- » Less energy required due to faster applications

Our Flooring Solutions Excel in Durability, Reducing for Maintenance



Ucrete flooring solutions for the Food and Beverage Industry

- » Market leading performance since 50 years
- » Innovation: Fast curing application for reduced downtime (12h)
- » Hygienic surface and ease of cleaning
- » Low VOC emissions and content
- » Resistance to extreme chemical/ temperature shocks



MasterTop industrial flooring solutions

- » High acoustic comfort
- » Ease of cleaning and hygienic surface
- » Freedom of design possibilities
- » Long durability and ease of maintenance
- » Low VOC

Master Builders Solutions provides products and solutions to help building owners, design professionals, concrete producers and contractors build and restore structures. Our solutions perform to the highest standards with consideration in cost, environmental impact and safety of our customers and building occupants. ***We simplify and streamline the construction process by offering sustainable solutions that perform; services that quantify sustainability; and knowledgeable partners to help solve our customers' challenges.***

Tunneling and Mining Solutions



Saving time and resources with MasterRoc:

- » Spray application of concrete and waterproofing membranes
- » Waterproofing and injections for stabilization and long-lasting solutions
- » Tunnel boring machines (TBM) solutions for high efficiency

Our Repair and Protection Systems Allow big Savings, too



Repairing and refurbishment instead of new construction with MasterBrace, MasterProtect and MasterEmaco:

- » Durable solutions to expand life span of infrastructures and buildings
- » Reducing down time
- » Ease and speed of application

Grouts for more Sustainability



Precise installation of heavy elements, i.e. wind turbines with MasterFlow:

- » Anchoring in difficult conditions and circumstances
- » Precise positioning of precast elements or machines

Sealants for Long-Lasting Protection



Durable and easy to install with MasterSeal sealants:

- » Weatherproof and enhance architectural and engineered joint sealing of structures to allow controlled movement with long service life
- » High versatility and technologies (acrylic, polyurethane, silicone etc.) to suit different applications even in challenging environments

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