Standard Specification for Concrete Floors

Defined Traffic Floor

Area of Application : Warehouse & Filming Studio

Item	Description	Quantity	Unit	Rate (RM)	Value (RM)
1	**PRELIMINARIES**				
1.1	- Mobilization of machinery, tools and equipment transportations, material, basic safety programs, travels and subsistence expenses. *Remarks: Preliminaries cost shall exclude premium for performance bond, full time safety officer, laboratory tests, etc unless stated.*				
2	**Fmin FLOOR SPECIFICATIONS**				
2.1	Fmin 60 - Racking Height up to **8 Meter.**				
2.2	Fmin 75 - Racking Height between **8 Meter to 12 Meter.**				
2.3	Fmin 100 - Racking Height above **12 Meter**.				
3	**SCOPE OF WORK**				
	SCREEDING AND POWERFLOATING				
3.1	**"DEFINED" TRAFFIC FLOOR** - To supply skilled labour, mechanical truss screed machine, walk-behind & ride-on power trowel machines and flat floor equipment to construct "Defined Traffic Floor" to meet Fmin specifications (according to ACI 360R-10), by using narrow strip placement (4m to 6m wide) and power trowelled to achieved "Burnished Finish". *Remarks:-* *i. Concrete and reinforcement to be supplied and placed by main contractor.*				
	ABRASION RESISTANCE FOR FLOOR SURFACE				
3.2	- The abrasion resistance for floor surface shall meet AR2 requirement in accordance with BS8204-Part 2:2003 (Refer Table 4 - Classification of abrasion resistance and limiting depths of wear for the abrasion test).				
	CONSTRUCTION JOINT				
3.3	- To construct side formwork by installing angle iron or timber formwork with flat bar system to meet and control the alignment and levelness specified. *(Excluding hyrib installation)*				
	APPLICATION OF LIQUID HARDENER IN LIEU OF DRY SHAKE HARDENER				
3.4	- To supply and apply Nano Lithium Silicate based liquid hardener "HARDEN X™" to densify and harden the floor surface for dust-free and better abrasion resistance.				
	APPLICATION OF CURING COMPOUND				
3.5	- To supply and apply "ZACKCURE" curing compound with 60% efficiency to retain moisture for hydration within the concrete slab.				
	CONTRACTION / SAW CUT JOINT				
3.6	- To carry out saw cut joint using diamond saw cutter machine with depth of 1/4 of the concrete thickness (subject to slab design) to mitigate random cracks including filling up semi - rigid joint sealant with minimum Shore "A" Hardness of 70.				
	FLOOR MEASUREMENT				
3.7	- To supply competent technician and Dipstick Floor Profiler (class II Digital Instrument as defined in ASTM E 1155 M) to carry out floor measurement using Fmin method for Defined Traffic Floor. Floor measurement report (conformance to ACI 360R-5) to be endorsed by certified technician.				

Standard Specification for Concrete Floors

Random Traffic Floor

Area of Application : Carpark, Warehouse & Factory

Item	Description	Quantity	Unit	Rate (RM)	Value (RM)
1	**PRELIMINARIES**				
1.1	- Mobilization of machinery, tools and equipment transportations, material, basic safety programs, travels and subsistence expenses. *Remarks: Preliminaries cost shall exclude premium for performance bond, full time safety officer, laboratory tests, etc unless stated.*				
2	**F-NUMBER SPECIFICATION**				
	Floor to be specified with Floor to be specified with F-Number system based on ACI 117 and compliance to ASTM E 1155 M:- FL is not applicable to elevated slabs unless props/scaffolding are in place.				
2.1	**- Racking Height up to 8 Meter**				
	Ground Floor Slab / **Elevated Slab** Specified Overall Value: FF30 FL20 / Specified Overall Value: FF30 Minimum Local Value: FF20 FL15 / Minimum Local Value: FF20				
2.2	**- Racking Height between 8 Meter to 10 Meter**				
	Ground Floor Slab / **Elevated Slab** Specified Overall Value: FF45 FL30 / Specified Overall Value: FF45 Minimum Local Value: FF32 FL20 / Minimum Local Value: FF32				
2.3	**- Racking Height between 10 Meter to 12 Meter**				
	Ground Floor Slab / **Elevated Slab** Specified Overall Value: FF60 FL40 / Specified Overall Value: FF60 Minimum Local Value: FF40 FL28 / Minimum Local Value: FF40				
3	**SCOPE OF WORK**				
	SCREEDING AND POWERFLOATING				
3.1	**RANDOM TRAFFIC FLOOR** The concrete floor surface shall be screeded using a laser screed machine with digital laser receiver to pick up the laser beam transmitted and auto screed to the desired flatness and levelness to meet F-Number based on ACI 117 and compliance to ASTM E 1155 M. *Remarks:-* *i. Concrete and reinforcement to be supplied and placed by main contractor.*				
	ABRASION RESISTANCE FOR FLOOR SURFACE				
3.2	- The abrasion resistance for floor surface shall meet AR2 requirement in accordance with BS8204-Part 2:2003 (Refer Table 4 - Classification of abrasion resistance and limiting depths of wear for the abrasion test).				
	CONSTRUCTION JOINT				
3.3	- To construct side formwork by installing angle iron or timber formwork with flat bar system to meet and control the alignment and levelness specified. (Excluding hyrib installation)				
	APPLICATION OF DRY SHAKE HARDENER				
3.4	- To supply and broadcast "ZackHard" - natural, non-metallic floor hardener with dosage of approximately 4kg/m2 laid monolithically onto fresh concrete.				
	APPLICATION OF CURING COMPOUND				
3.5	- To supply and apply "ZACKCURE" curing compound with 60% efficiency to retain moisture for hydration within the concrete slab.				
	CONTRACTION / SAW CUT JOINT				
3.6	- To carry out saw cut joint using diamond saw cutter machine with depth of 1/4 of the concrete thickness (subject to slab design) to mitigate random cracks including filling up semi - rigid joint sealant with Shore "A" Hardness of 70.				
	FLOOR MEASUREMENT				
3.7	- To supply competent technician and Dipstick Floor Profiler (class II Digital Instrument as defined in ASTM E 1155 M) to carry out floor measurement using FF FL method for Random Traffic Floor. Floor measurement report (conformance to ASTM E 1155 M) to be approved by certified technician.				
	APPLICATION OF LIQUID HARDENER / DENSIFIER				
3.8	- To supply and apply Nano Lithium Silicate based liquid hardener "HARDEN X™" to densify and harden the floor surface for dust-free and better abrasion resistance.				

Standard Specification for Concrete Floors

Zackea-Slim Topping System

Area of Application : Warehouse & Filming Studio

Item	Description	Quantity	Unit	Rate (RM)	Value (RM)
1	**PRELIMINARIES**				
1.1	- Mobilization of machinery, tools and equipment transportations, material, basic safety programs, travels and subsistence expenses. *Remarks: Preliminaries cost shall exclude premium for performance bond, full time safety officer, laboratory tests, etc unless stated.*				
2	**Fmin FLOOR SPECIFICATIONS**				
2.1	Fmin 60 - Racking Height up to **8 Meter.**				
2.2	Fmin 75 - Racking Height between **8 Meter to 12 Meter.**				
2.3	Fmin 100 - Racking Height above **12 Meter**.				
3	**SCOPE OF WORK**				
	SURFACE PREPARATION				
3.1	- To carry out surface preparation using mechanical machine to roughen existing floor, clean with water jet, followed by applying 1 coat of cement mortar as bonding agent.				
	CONCRETE PLACING AND REINFORCEMENT				
3.2	- To supply and apply **100m thick** of concrete chipping at Grade30 reinforced with **steel fibre at 20kg/m3**. Including labour to place and compact concrete using poker vibrator.				
	SCREEDING AND POWERFLOATING				
3.3	**RANDOM TRAFFIC FLOOR** The concrete floor surface shall be screeded using a laser screed machine with digital laser receiver to pick up the laser beam transmitted and auto screed to the desired flatness and levelness to meet F-Number based on ACI 117 and compliance to ASTM E 1155 M.				
	ABRASION RESISTANCE FOR FLOOR SURFACE				
3.4	- The abrasion resistance for floor surface shall meet AR2 requirement in accordance with BS8204-Part 2:2003 (Refer Table 4 - Classification of abrasion resistance and limiting depths of wear for the abrasion test).				
	CONSTRUCTION JOINT				
3.5	- To construct side formwork by installing angle iron or timber formwork with flat bar system to meet and control the alignment and levelness specified. (Excluding hyrib installation)				
	APPLICATION OF DRY SHAKE HARDENER				
3.6	- To supply and broadcast "ZackHard" - natural, non-metallic floor hardener with dosage of approximately 4kg/m2 laid monolithically onto fresh concrete.				
	APPLICATION OF CURING COMPOUND				
3.7	- To supply and apply "ZACKCURE" curing compound with 60% efficiency to retain moisture for hydration within the concrete slab.				
	CONTRACTION / SAW CUT JOINT				
3.8	- To carry out saw cut joint using diamond saw cutter machine with depth of 1/4 of the concrete thickness (subject to slab design) to mitigate random cracks including filling up semi - rigid joint sealant with Shore "A" Hardness of 70.				
	FLOOR MEASUREMENT				
3.9	- To supply competent technician and Dipstick Floor Profiler (class II Digital Instrument as defined in ASTM E 1155 M) to carry out floor measurement using FF FL method for Random Traffic Floor. Floor measurement report (conformance to ASTM E 1155 M) to be approved by certified technician.				
	APPLICATION OF LIQUID HARDENER / DENSIFIER				
4	- To supply and apply Nano Lithium Silicate based liquid hardener "HARDEN X™" to densify and harden the floor surface for dust-free and better abrasion resistance.				

Standard Specification for Concrete Floors

Zackea-Slim Topping System

Area of Application : Carpark, Warehouse & Factory

Item	Description	Quantity	Unit	Rate (RM)	Value (RM)
1	**PRELIMINARIES**				
1.1	- Mobilization of machinery, tools and equipment transportations, material, basic safety programs, travels and subsistence expenses. *Remarks: Preliminaries cost shall exclude premium for performance bond, full time safety officer, laboratory tests, etc unless stated.*				
2	**F-NUMBER SPECIFICATION**				
2.1	Floor to be specified with Floor to be specified with F-Number system based on ACI 117 and compliance to ASTM E 1155 M:- FL is not applicable to elevated slabs unless props/scaffolding are in place.				
2.2	**- Racking Height up to 8 Meter**				

Ground Floor Slab	Elevated Slab
Specified Overall Value: FF30 FL20	Specified Overall Value: FF30
Minimum Local Value: FF20 FL15	Minimum Local Value: FF20

3	**SCOPE OF WORK**				
	SURFACE PREPARATION				
3.1	- To carry out surface preparation using mechanical machine to roughen existing floor, clean with water jet, followed by applying 1 coat of cement mortar as bonding agent.				
	CONCRETE PLACING AND REINFORCEMENT				
3.2	- To supply and apply **20 to 40mm thick** of concrete chipping at Grade30 reinforced with **polypropylene fibre at 2kg/m3** and **concrete compensating agent "Carecrete 50"** to minimize shrinkage cracks. Including labour to place and compact concrete using poker vibrator.				
	SCREEDING AND POWERFLOATING				
3.3	**RANDOM TRAFFIC FLOOR** The concrete floor surface shall be screeded using a laser screed machine with digital laser receiver to pick up the laser beam transmitted and auto screed to the desired flatness and levelness to meet F-Number based on ACI 117 and compliance to ASTM E 1155 M.				
	ABRASION RESISTANCE FOR FLOOR SURFACE				
3.4	- The abrasion resistance for floor surface shall meet AR2 requirement in accordance with BS8204-Part 2:2003 (Refer Table 4 - Classification of abrasion resistance and limiting depths of wear for the abrasion test).				
	CONSTRUCTION JOINT				
3.5	- To construct side formwork by installing angle iron or timber formwork with flat bar system to meet and control the alignment and levelness specified. (Excluding hyrib installation)				
	APPLICATION OF DRY SHAKE HARDENER				
3.6	- To supply and broadcast "ZackHard" - natural, non-metallic floor hardener with dosage of approximately 4kg/m2 laid monolithically onto fresh concrete.				
	APPLICATION OF CURING COMPOUND				
3.7	- To supply and apply "ZACKCURE" curing compound with 60% efficiency to retain moisture for hydration within the concrete slab.				
	CONTRACTION / SAW CUT JOINT				
3.8	- To carry out saw cut joint using diamond saw cutter machine with depth of 1/4 of the concrete thickness (subject to slab design) to mitigate random cracks including filling up semi - rigid joint sealant with Shore "A" Hardness of 70.				
	FLOOR MEASUREMENT				
3.9	- To supply competent technician and Dipstick Floor Profiler (class II Digital Instrument as defined in ASTM E 1155 M) to carry out floor measurement using FF FL method for Random Traffic Floor. Floor measurement report (conformance to ASTM E 1155 M) to be approved by certified technician.				
	APPLICATION OF LIQUID HARDENER / DENSIFIER				
4	- To supply and apply Nano Lithium Silicate based liquid hardener "HARDEN X™" to densify and harden the floor surface for dust-free and better abrasion resistance.				

Standard Specification for Concrete Floors

HardenX™ Lithium Hardener/Densifier

Area of Application : Carpark, Warehouse & Factory

Item	Description	Quantity	Unit	Rate (RM)	Value (RM)
1	**PRELIMINARIES**				
1.1	- Mobilization of machinery, tools and equipment transportations, material, basic safety programs, travels and subsistence expenses. *Remarks: Preliminaries cost shall exclude premium for performance bond, full time safety officer, laboratory tests, etc unless stated.*				
2	**FLOOR TREATMENT WITH LIQUID HARDENER (FOR EXISTING FLOOR)**				
2.1	**SCOPE OF WORK** - To carry out surface preparation by scrubbing and cleaning floor surface ready to receive 1 liquid hardener application.				
2.2	- To supply and apply Nano Lithium Silicate based liquid hardener "HARDEN X™" to densify and harden the floor surface for dust-free and better abrasion resistance, apply strictly according to manufacturer's instruction.				
3	**FLOOR TREATMENT WITH LIQUID HARDENER (FOR NEW FLOOR)**				
	SCOPE OF WORK				
3.1	- To supply and apply Nano Lithium Silicate based liquid hardener "HARDEN X™" to densify and harden the floor surface for dust-free and better abrasion resistance, apply strictly according to manufacturer's instruction.				