SPARC

Surface preparation training from the industry leaders

CONCRETE SURFACE PREPARATION GUIDE

CHOOSING A METHOD:

(1) ASSESS THE SURFACE. Examine the surface and determine what type of conditions exist.

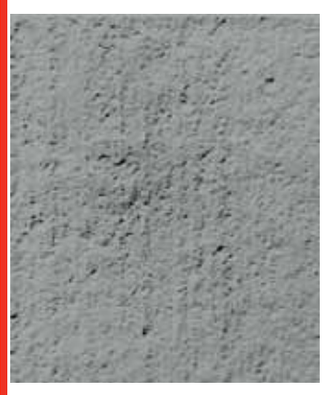
(2) DETERMINE THE PROFILE/END RESULT DESIRED. Determine the profile or the end result desired for the surface.

(3) IDENTIFY THE PROCESS. Based on the surface conditions and the desired end results, identify possible equipment/surface preparation methods.

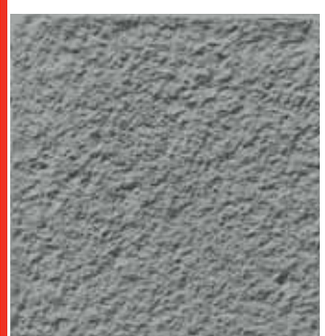
(4) TEST TO CONFIRM. Perform a test patch to confirm selection.

GRINDING (SP2)

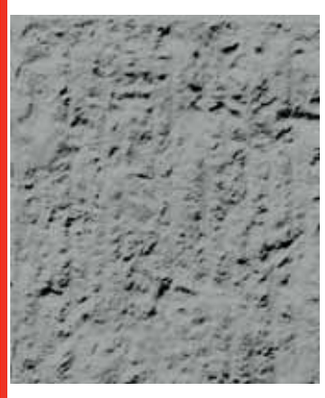
SHOT BLASTING LIGHT (SP3)



SCARIFYING LIGHT (SP4)



SHOT BLASTING MEDIUM (SP5)



SCARIFYING MEDIUM (SP6)

ABRASIVE BLAST HEAVY (SP7)

SCARIFYING HEAVY (SP9)

Light Removal

DESIRED RESULT	DESIRED PROFILE								PROCESS
BARE CONCRETE	**SP2**	**SP3**	**SP4**	**SP5**	**SP6**	**SP7**	**SP8**	**SP9**	
Prepare to apply thin film coating	Smooth, minimum profile, open pores of slab	•	•						Shot Blast+Grind OR Grind
Light dirt removal ($^1/_{32}$" or less)	Clean surface, open pores	•	•						Shot Blast+Grind OR Grind
Level uneven surface, ($^1/_{16}$" or less)	Smooth surface	•	•						Grind
LIGHTLY COATED CONCRETE (Thin film 0–5 mils)									
Urethane removal	Remove coating, open pores of slab, ready for new coating	•	•						Shot Blast+Grind OR Grind
Epoxy removal	Remove coating, open pores of slab, ready for new coating	•	•						Grind
THIN LAYER OF CARPET GLUE OR TILE ADHESIVE									
Sticky residue	Remove, leave smooth surface, ready for thin coating	•	•	•					Scrape+Shot Blast
Brittle residue	Remove, leave smooth surface, ready for thin coating	•	•	•					Scrape+Shot Blast+Grind OR Scrape+Grind
Brittle residue	Remove from floor, leave smooth, ready for new tile/carpet								Scrape

Medium Removal

DESIRED RESULT	DESIRED PROFILE								PROCESS
UNEVEN CONCRETE	**SP2**	**SP3**	**SP4**	**SP5**	**SP6**	**SP7**	**SP8**	**SP9**	
Correct an uneven surface ($^1/_8$" or less deviation)	Level floor to smooth	•	•	•					Grind
DIRTY CONCRETE									
Light grease, oil mixed with dirt ($^1/_{32}$" to $^1/_{16}$")	Remove contaminated layer, open pores for coating	•	•	•	•	•			Scrape OR Scarify. THEN Shot Blast OR Grind
Medium grease, oil mixed with dirt ($^1/_{16}$" to $^1/_8$")	Remove contaminated layer, open pores for coating	•	•	•	•	•			Scrape OR Scarify+Shot Blast OR Grind
COATED CONCRETE (Medium layer 5–25 mils)									
Urethane	Remove coating, leave smooth surface for new thin to medium coating	•	•	•	•	•			Shot Blast OR Scarify. THEN Grind
Epoxy	Remove coating, leave smooth surface for new thin to medium coating	•	•	•	•	•			Scrape OR Scarify OR Shot Blast OR Grind
TILE REMOVAL									
VCT on concrete or wood	Remove tile and adhesive, make concrete or wood floor bare	Existing slab or floor							Scrape
Sheet vinyl on concrete or wood	Remove vinyl and adhesive, make concrete or wood floor bare	Existing slab or floor							Scrape
Commercial carpet	Remove carpet and glue, make floor bare	Existing slab							Scrape
Ceramic tile or quarry tile	Remove tile and adhesive, make floor bare	•	•	•	•				Scrape+Scarify+Grind OR Scrape+Grind

Heavy Removal

DESIRED RESULT	DESIRED PROFILE								PROCESS
BAD CONCRETE SURFACE	**SP2**	**SP3**	**SP4**	**SP5**	**SP6**	**SP7**	**SP8**	**SP9**	
Spalled areas	Remove spalled areas and weak concrete, make ready for underlayment or topping				•	•	•	•	Scarify+Shot Blast OR Shot Blast
Thick layer of laitance ($^1/_8$" to ¼")	Remove weak layer of laitance, make ready for topping				•	•	•	•	Scarify+Shot Blast OR Shot Blast
Contaminated surface ($^1/_8$" to ¼")	Remove contaminated concrete surface				•	•	•	•	Scarify+Shot Blast OR Shot Blast
TRAFFIC MARKINGS AND LINE STRIPES									
Paint - on concrete	Remove painted lines, leave surface ready for **thin** coatings	•	•	•					Scarify OR Shot Blast OR Grind
Paint - on concrete	Remove painted lines, leave surface ready for **thick** coatings				•	•	•	•	Scarify+Shot Blast OR Shot Blast
Thermal plastic - on concrete	Remove thermal plastic, leave surface ready for new line					•	•	•	Scarify
HEAVY CARPET ADHESIVE REMOVAL									
Adhesive removal	Remove carpet adhesive, make floor bare	•	•	•					Scrape OR Scarify

Polish

DESIRED RESULT	DESIRED PROFILE	PROCESS
POLISH		
Polish uncoated smooth surface	Smooth to polished, high gloss surface	Grind (multiple steps)

Shot blasting

Grinding

Polishing

Scarifying

Scraping

Shot blasting is an environmentally friendly and cost-effective method for preparing concrete surfaces. This labor and time-saving process strips, cleans and profiles the surface simultaneously—eliminating drying time and costly disposal procedures associated with other surface preparation methods. Shot blasting produces excellent bonding characteristics, reducing coating failures and maximizing floor life.

Diamond grinders and polishers use horizontally rotating disks to level, smooth or clean a concrete surface. Remove coatings or adhesive residues; smooth or flatten concrete slabs, including troublesome curled expansion joints. Remove surface imperfections. For decorative concrete applications, use the machines to polish concrete to a high shine or to restore old slabs for architectural finishes.

Use scarifiers for repairing common slab problems: curled joints, high spots, uneven slabs, burned slabs due to over-troweling, trowel marks, and damage due to weather. They remove oil, contaminants, traffic lines, epoxy coatings or paint. They are suitable for smoothing uneven surfaces and trip hazards, or for cutting safety grooves in ramps, walkways and loading docks.

Scrapers are used to remove a wide range of floor coverings, waterproofing membranes and thick coatings. Scrapers can remove rubber, epoxy, thin-set mortar, elastomeric coatings, adhesives and more.

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