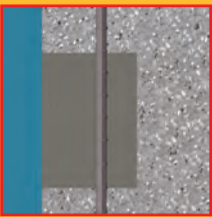
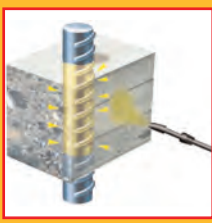


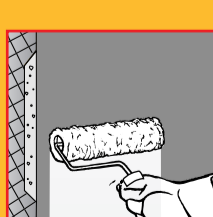
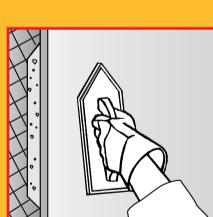
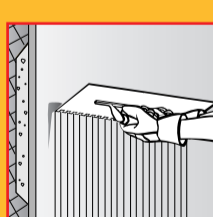
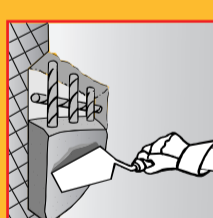
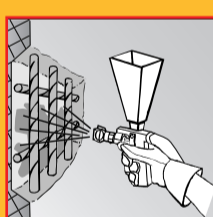
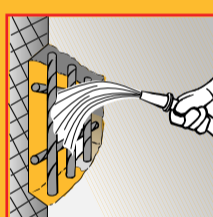
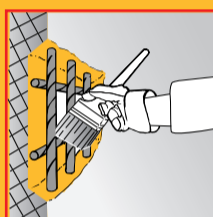
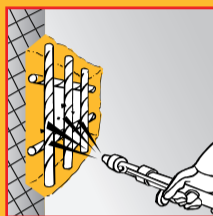
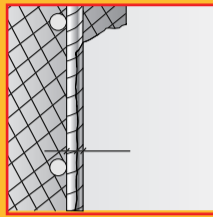
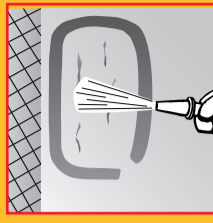
# CONCRETE REPAIR EUROPEAN STANDARDS 1504-9 SERIES

## Principles and Methods Related to Defects in Concrete & Reinforcement Corrosion

### SIKA PRODUCT SELECTOR



PRINCIPLE NO	PRINCIPLE DEFINITION	METHODS BASED ON THE PRINCIPLE	SIKA PRODUCTS
<b>Principle 1 (PI)</b>	Protection Against Ingress  Reducing or preventing the ingress of adverse agents, eg water, other liquids, vapour, gas, chemicals and biological agents	1.1 Impregnation 1.2 Surface coating with and without crack bridging ability  1.3 Locally bandaged cracks 1.4 Filling Cracks  1.5 Transferring cracks into joints 1.6 Erecting external panels 1.7 Applying membranes	Sikafloor Curehard 24 Sikagard 680S, Sikagard 550W, Sikagard ElastoColor 675W, SikaColor 671W, Sikagard AntiGraffiti System, SikaTop Seal 107 Sikadur Combiflex System Sikadur 52 (<.5mm), Sikadur 32 (>.5mm), Sikadur 31 (>.5.0mm) Sikaflex AT range SikaTack Panel System Sikafloor 400N, Sikafloor 350 Elastic, Sikafloor 261
<b>Principle 2 (MC)</b>	Moisture Control  Adjusting and maintaining the moisture content in the concrete within a specified range of values	2.1 Hydrophobic impregnation 2.2 Surface coating  2.3 Sheltering or overcladding 2.4 Electrochemical treatment	Sikagard 700S Aquastop, Sikagard 702W Aquaphobe Sikagard 680S, Sikagard 550W, Sikagard 545W Elastofil, Sikagard ElastoColor 675W, SikaColor 671W, Sikagard AntiGraffiti System, SikaTop Seal 107 SikaTack Panel System System N/A
<b>Principle 3 (CR)</b>	Concrete Restoration  Restoring the original concrete of an element of the structure to the originally specified shape and function  Restoring the concrete structure by replacing part of it	3.1 Applying mortar by hand 3.2 Recasting with concrete 3.3 Spraying concrete or mortar 3.4 Replacing elements	Sika MonoTop 612, Sika MonoTop 615 Sika Armorex Armorcrete Sika MonoTop 612, SikaCem 133 Gunite Sika Armorex Armorcrete
<b>Principle 4 (SS)</b>	Structural Strengthening  Increasing or restoring the structural load bearing capacity of an element of the concrete structure	4.1 Adding or replacing embedded or external reinforcing steel bars 4.2 Installing bonded rebars in preformed or drilled holes in the concrete 4.3 Plate bonding 4.3a Structural fabrics 4.4 Adding mortar or concrete 4.5 Injecting cracks, voids or interstices 4.6 Filling cracks, voids or interstices 4.7 Prestressing - (post tensioning)	System N/A Sika AnchorFix 1, Sika AnchorFix 2, Sikadur 42, Sikadur 33 Sika CarboDur Plate Bonding System SikaWrap System Sika MonoTop 612, Sika MonoTop 615 Sikadur 52 (<.5mm), Sikadur 32 (>.5mm) Sikadur 52 (<.5mm), Sikadur 32 (>.5mm) Sika CarboDur System
<b>Principle 5 (PR)</b>	Physical Resistance  Increasing resistance to physical or mechanical attack	5.1 Overlays or coatings 5.2 Impregnation	• Horizontal - Sikafloor Systems (depends on requirements) • Vertical - Sikagard Systems (as 1.2 above) Sikafloor Curehard 24
<b>Principle 6 (RC)</b>	Resistance to Chemicals  Increasing resistance of the concrete surface to deteriorations by chemical attack	6.1 Overlays or coatings 6.2 Impregnation	Sikagard 62, Sikagard 63N, Sikafloor 390, Sikafloor 381AS Sikafloor 390AS Sikafloor Curehard 24
<b>Principle 7 (RP)</b>	Preserving or Restoring Passivity  Creating chemical conditions in which the surface of the steel reinforcement is maintained in or is returned to a passive condition	7.1 Increasing cover to reinforcement with additional cementitious mortar or concrete 7.2 Replacing contaminated or carbonated concrete 7.3 Electrochemical realkalisation of carbonated concrete* 7.4 Realkalisation of carbonated concrete by diffusion 7.5 Electrochemical chloride extraction	Sika MonoTop 612, 615, Sika Armorex Armorcrete, SikaCem 133 Gunite Sika MonoTop 612, 615, Sika Armorex Armorcrete, SikaCem 133 Gunite Sika MonoTop 612, 615, Sika Armorex Armorcrete, SikaCem 133 Gunite Sika MonoTop 612, 615, Sika Armorex Armorcrete, SikaCem 133 Gunite Sika MonoTop 612, 615, Sika Armorex Armorcrete, SikaCem 133 Gunite
<b>Principle 8 (IR)</b>	Increasing Resistivity  Increasing the electrical resistivity of the concrete	8.1 Limiting moisture content by surface treatments, coating or sheltering	Sikagard Protective Coatings (as 1.2 above) Sikafloor Deck Membranes, Sikafloor 261, 350 and 400N Sikagard Hydrophobic Impregnations (as 2.1 above) SikaTack Panel Cladding system
<b>Principle 9 (CC)</b>	Cathodic Control  Creating conditions in which potentially cathodic areas of reinforcement are unable to drive an anodic reaction	9.1 Limiting oxygen content (at the cathode) by saturation or surface coating	Sikagard Protective Coatings (as 1.2 above) Sikafloor Deck Membranes, Sikafloor 261, 350 and 400N
<b>Principle 10 (CP)</b>	Cathodic Protection  Polarising the steel reinforcement cathodically so as to reduce the rate of anodic reaction	10.1 Applying electrical potential	Sika MonoTop 612, SikaCem 133 Gunite CP Overlays with mesh
<b>Principle 11 (CA)</b>	Control of Anodic Areas  Creating conditions in which potentially anodic areas of reinforcement are unable to take part in the corrosion reaction	11.1 Painting reinforcement with coatings containing active pigments 11.2 Painting reinforcement with barrier coatings 11.3 Applying inhibitors to the concrete	Sika Armatec 110, Sika MonoTop 610 Reinforcement Coatings Icosit 6630 Sika FerroGard 903 (also Cathodic control)



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