



RED HEAD[®]

CONCRETE ANCHORING SYSTEMS



Red Head Adhesives: A7+ & C6+

All-in-one adhesive solutions for light, medium, and heavy-duty anchoring

Common Features and Advantages

- **Most Versatile** – One adhesive to be used across an extremely wide range of anchoring applications and substrates, including masonry
- **All Weather** – Approved for saturated, water-filled, and submerged installations
- **Code Approvals** – cracked concrete, seismic, NSF 61, ministry of transportation Ontario, Quebec and BC.

A7+ HYBRID









- Sets and cures faster and can be installed at lower temperatures
- Two cartridge sizes to adapt to all jobsite requirements

C6+ EPOXY



- Approved for use in diamond core drilled and/or oversized holes in all conditions and without need for roughening
- Exceptional shelf life, 24 months
- Highest bond strength in all conditions

ADHESIVE ANCHORING SYSTEM COMPETITIVE CROSS REFERENCE

	 Red Head® CONCRETE ANCHORING SYSTEMS			
Quick Cure	 A7P-28 and A7P-10	HY200A (Accelerated) HY200R (Regular) HY100 HY70 (Masonry) HIT ICE (Cold Weather) HY10 PLUS	AC50 SILVER AC100+ Gold AC200+	AT-XP AT
Slow Cure	 C6P-30	RE500SD RE500V3 RE100	PE-1000+ PURE110+ PURE50+ PUREGP	SET SET-XP SET-3G ET-HP

A7+ Strength and Approval Comparison

Reinforcing Bar

	Red Head	Hilti		Simpson		DeWALT			UCAN
#5 US Reinforcing bar	A7+	HY-100	HY-200	AT	AT XP	AC50	AC100+	AC200+	FR5MAX (10:1)
CHARACTERISTIC BOND STRENGTH (UNCRACKED)	1900	-	1560	-	970	-	823	2028	1087
CHARACTERISTIC BOND STRENGTH (CRACKED)	755	-	1090	-	780	-	345	1128	N/A
CHARACTERISTIC BOND STRENGTH (SAT UNCRACKED)	1900	-	1320	-	517	-	696	1716	1087
CHARACTERISTIC BOND STRENGTH (SAT CRACKED)	755	-	922	-	416	-	292	954	N/A
APPROVALS									
ICC ESR listed	YES	YES	YES	NO	YES	NO	YES	YES	NO
Masonry	YES	NO	Only grout-filled	YES	Only grout-filled	NO	YES	NO	NO
Cracked Concrete	YES	NO	YES	NO	YES	NO	YES	YES	Only threaded rod
All Seismic Zones (A-F)	YES	NO	YES	NO	YES	NO	YES	YES	YES
Water filled and submerged conditions	YES	NO	NO	N/A	NO	NO	NO	NO	NO
NSF61	YES	YES	YES	YES	YES	N/A	YES	YES	N/A
COLD TEMPERATURE (-10 celcius or below)	YES	YES	YES	YES	YES	YES	YES	NO	YES

*Bond strength values for A7+ and HY-200 are for the following temperature range: Maximum short term temperature of 130 °F and maximum long term temperature of 110 °F

*Bond strength values for AC200+, AC100+, FR5MAX are for the following temperature range: Maximum short term temperature of 176 °F and maximum long term temperature of 122 °F

*Bond strength values for AT XP are for temperature range: Maximum short term temperature of 180 °F and maximum long term temperature of 110 °F

*N/A indicates that the information is not available or unclear

Threaded Rod

	Red Head	Hilti		Simpson		DeWALT			UCAN	
3/4" Threaded rod	A7+	HY-100	HY-200	AT	AT XP	AC50	AC100+	AC200+	FR5MAX (10:1)	FR6-SD (1:1)
CHARACTERISTIC BOND STRENGTH (UNCRACKED)	1769	-	2220	-	1770	-	823	2142	1070	1350
CHARACTERISTIC BOND STRENGTH (CRACKED)	887	-	1215	-	950	-	519	1219	720	965
CHARACTERISTIC BOND STRENGTH (SAT UNCRACKED)	1769	-	1878	-	1225	-	700	1812	1070	1350
CHARACTERISTIC BOND STRENGTH (SAT CRACKED)	887	-	1028	-	658	-	441	1031	720	965
APPROVALS										
ICC ESR listed	YES	YES	YES	NO	YES	NO	YES	YES	NO	YES
Masonry	YES	NO	YES	YES	Only grout-filled	NO	YES	NO	NO	NO
Cracked Concrete	YES	NO	YES	NO	YES	NO	YES	YES	YES	YES
All Seismic Zones (A-F)	YES	NO	YES	NO	YES	NO	YES	YES	YES	YES
Water filled and submerged conditions	YES	NO	NO	N/A	NO	NO	NO	NO	NO	NO
NSF61	YES	YES	YES	YES	YES	N/A	YES	YES	N/A	YES
COLD TEMPERATURE (-10 celcius or below)	YES	YES	YES	YES	YES	YES	YES	NO	YES	NO

*Bond strength values for A7+, FR6-SD and HY-200 are for the following temperature range: Maximum short term temperature of 130 °F and maximum long term temperature of 110 °F

*Bond strength values for AC200+, AC100+, FR5MAX are for the following temperature range: Maximum short term temperature of 176 °F and maximum long term temperature of 122 °F

*Bond strength values for AT XP are for temperature range: Maximum short term temperature of 180 °F and maximum long term temperature of 110 °F

*N/A indicates that the information is not available or unclear

C6+ Strength and Approval Comparison

Reinforcing Bar

	Red Head	Hilti	DeWALT	Simpson	UCAN
#5 US Reinforcing bar	C6+	RE-500 V3	Pure110+	SET-XP	FR6-SD (1:1)
CHARACTERISTIC BOND STRENGTH (UNCRACKED)	2180	1720	1671	788	1350
CHARACTERISTIC BOND STRENGTH (CRACKED)	1110	1390	1122	615	1025
CHARACTERISTIC BOND STRENGTH (SAT UNCRACKED)	2180	1720	1414	545	N/A
CHARACTERISTIC BOND STRENGTH (SAT CRACKED)	1110	1390	949	426	N/A
APPROVALS					
ICC ESR listed	YES	YES	YES	YES	YES
Masonry	YES	Only grout-filled	YES	NO	NO
Cracked Concrete	YES	YES	YES	YES	YES
All Seismic Zones (A-F)	YES	YES	YES	YES	YES
Water filled and submerged conditions	YES	Only in hammer-drilled holes	Only in hammer-drilled holes	NO	NO
NSF61	YES	YES	YES	YES	YES
Diamond Core Drilled holes	YES	Only uncracked concrete	NO	NO	NO

*Bond strength values for FR6-SD and RE 500 V3 are for the following temperature range: Maximum short term temperature of 130 °F and maximum long term temperature of 110 °F

*Bond strength values for C6+ are for the following temperature range: Maximum short term temperature of 142 °F and maximum long term temperature of 110 °F

*Bond strength values for SET-XP are for temperature range: Maximum short term temperature of 150 °F and maximum long term temperature of 110 °F

*Bond strength values for Pure 110+ are for the following temperature range: Maximum short term temperature of 140 °F and maximum long term temperature of 110 °F

*N/A indicates that the information is not available or unclear

*Bond strength values include sustained loading

A7+ vs AC200+



VS



Red Head A7+

DeWALT AC200+

Your Benefits

Base Material: Solid Concrete (Cracked & Uncracked) and masonry	Base Material: Solid Concrete (Cracked & Uncracked) and grout filled blocks	
Base Material Temperature: -10°C to 43°C	Base Material Temperature: -5°C to 40°C	Wider temp. range provides more versatility and installation in colder and warmer climates
Manufactured: France	Manufactured: Germany	
Shelf Life: 18 Months	Shelf Life: 18 Months	
Hole Preparation: Standard cleaning procedure (vacuum, wire brush, blow-out pump)	Hole Preparation: Standard cleaning procedure (vacuum, wire brush, blow-out pump)	
Cartridge Size: 10 oz and 28 oz, 10:1 mix ratio	Cartridge Size: 10 oz, 12 oz, and 28 oz, 10:1 mix ratio	
Cartridge type: Rigid coaxial cartridge for the 10 oz, and rigid dual cartridge for 28 oz	Cartridge type: Rigid coaxial cartridge for the 10 oz, and rigid dual cartridge for 12 and 28 oz	
Good pumpability with modified S55 nozzle included with cartridge	Comparable pumpability with standard nozzle included with cartridge	
In Field Performance: Works in dry, water saturated, water-filled concrete, and submerged conditions	In Field Performance: Works in dry, and water saturated concrete	A7+ can be installed in water-filled and submerged conditions with barely no strength reduction
Work Time at 0°C: 35 Min Work Time at 10°C: 16 Min Work Time at 21°C: 10 Min	Work Time at 0°C: 25 Min Work Time at 10°C: 10 Min Work Time at 21°C: 3 Min	A7+ provides more working time at higher temperatures allowing easier and better installation
Cure Time at 0°C: 4 Hours Cure Time at 10°C: 1-1/2 Hours Cure Time at 21°C: 3/4 Hours	Cure Time at 0°C: 3.5 Hours Cure Time at 10°C: 1 Hours Cure Time at 21°C: 1/2 Hours	
Threaded rod: 3/8" to 1-1/4" Rebar: #3 to #10	Threaded Rod: 3/8" to 1-1/4" Rebar: #3 to #10	
Resealable	Resealable	
Minimum Edge Distance (E)/Spacing (S): 1/2" - S: 1-1/2"; E: 1-1/2" 5/8" - S: 2-1/2"; E: 2-1/2" 3/4" - S: 3"; E: 3" 1" - S: 4"; E: 4"	Minimum Edge Distance (E)/Spacing (S): 1/2" - S: 2-1/2"; E: 1-3/4" 5/8" - S: 3"; E: 2" 3/4" - S: 3-3/4"; E: 2-3/8" 1" - S: 4-3/4"; E: 2-3/4"	A7+ smaller spacing allows for more efficient designs
Price: Competitive	Price: Competitive	
Bond Strength: Heavy duty. Maintains through all weather conditions with few exceptions with some diameters in submerged conditions	Bond Strength: Heavy duty. Decreases 15% from dry to water saturated conditions.	A7+ has basically no strength reductions with different water conditions. Hydrophobic nature.
Approvals: <ul style="list-style-type: none"> - Cracked concrete and masonry - Seismic approval (A-F) - Wind loading - NSF 61 - Transportation for ON, QC, and BC - ICC ESR 3903 (Concrete) and 3951 (Masonry) 	Approvals: <ul style="list-style-type: none"> - Cracked concrete - Seismic approval (A-F) - Wind loading - NSF 61 - ICC ESR 4027 (Concrete) 	A7+ Masonry approval provides a wider range of applications A7+ has Canadian Transportation approvals

A7+ vs Sika AnchorFix 3001



VS



Red Head A7+

Sika AnchorFix 3001

Your Benefits

Base Material: Solid Concrete (Cracked & Uncracked) and masonry	Base Material: Solid Concrete (Cracked & Uncracked) and grout filled blocks	
Base Material Temperature: -10°C to 43°C	Base Material Temperature: 5°C to 40°C	Wider temp. range provides more versatility and installation in colder and warmer climates
Shelf Life: 18 Months	Shelf Life: 24 Months	
Hole Preparation: Standard cleaning procedure (vacuum, wire brush, blow-out pump)	Hole Preparation: Standard cleaning procedure (vacuum, wire brush, blow-out pump)	
Cartridge Size: 10 oz and 28 oz, 10:1 mix ratio	Cartridge Size: 8.4 oz, 20 oz, and 50.7 oz, 1:1 mix ratio	
Cartridge type: Rigid coaxial cartridge for the 10 oz, and rigid dual cartridge for 28 oz	Cartridge type: Rigid coaxial cartridge for the 8.4 oz, and rigid dual cartridge for 20 and 50 oz	
Good pumpability with modified S55 nozzle included with cartridge	Comparable pumpability with standard nozzle included with cartridge	
In Field Performance: Works in dry, water saturated, water-filled concrete, and submerged conditions	In Field Performance: Works in dry, water saturated concrete and water-filled holes	A7+ can be installed in submerged conditions with barely no strength reduction
Work Time at 0°C: 35 Min Work Time at 10°C: 16 Min Work Time at 21°C: 10 Min	Work Time at 0°C: 30 Min Work Time at 10°C: 20 Min Work Time at 21°C: 11 Min	
Cure Time at 0°C: 4 Hours Cure Time at 10°C: 1-1/2 Hours Cure Time at 21°C: 3/4 Hours	Cure Time at 0°C: 72 Hours Cure Time at 10°C: 12 Hours Cure Time at 21°C: 7 Hours	A7+ will cure much faster for anchor loading
Threaded rod: 3/8" to 1-1/4" Rebar: #3 to #10	Threaded Rod: 3/8" to 1-1/4" Rebar: #3 to #10	
Resealable	Resealable	
Minimum Edge Distance (E)/Spacing (S): 1/2" - S: 1-1/2"; E: 1-1/2" 5/8" - S: 2-1/2"; E: 2-1/2" 3/4" - S: 3"; E: 3" 1" - S: 4"; E: 4"	Minimum Edge Distance (E)/Spacing (S): 1/2" - S: 1-1/2"; E: 1-1/2" 5/8" - S: 1-3/4"; E: 1-3/4" 3/4" - S: 1-7/8"; E: 1-7/8" 1" - S: 2"; E: 2"	
Price: Competitive	Price: Competitive	
Bond Strength: Heavy duty. Maintains through all weather conditions with few exceptions with some diameters in submerged conditions	Bond Strength: Heavy duty. Characteristic strength significantly lower at any concrete conditions.	A7+ has basically no strength reductions with different water conditions and has higher characteristics strengths. Hydrophobic nature.
Approvals: <ul style="list-style-type: none"> - Cracked concrete and masonry - Seismic approval (A-F) - Wind loading - NSF 61 - Transportation for ON, QC, and BC - ICC ESR 3903 (Concrete) and 3951 (Masonry) 	Approvals: <ul style="list-style-type: none"> - Cracked concrete - Seismic approval (C-F) - Wind loading - NSF 61 - Transportation for ON, QB and BC - ICC ESR 3608 (Concrete) 	A7+ Masonry approval provides a wider range of applications A7+ has approval for all seismic zones



Date: April 12, 2021

Red Head A7+	SIKA Anchorfix 2020	Your Benefits
Base Material: Solid Concrete (Cracked & Uncracked) and masonry	Base Material: Solid Concrete (Cracked & Uncracked) and masonry	
Base Material Temperature: -10°C to 43°C	Base Material Temperature: -10°C to 35°C	Higher maximum temperature range
Shelf Life: 18 Months	Shelf Life: 12 Months	Longer shelf life gives distributors and contractors a longer window to work and make sales. Reduces chance of using expired products
Cartridge Size: 10 Oz and 28 Oz, 10:1 mix ratio	Cartridge Size: 10 Oz and 28 Oz, 10:1 mix ratio	
Variants: One for all conditions	Variants: Three different variants (regular, tropical and arctic)	A7+ has simplification and innovation that allows one variant to cover all three variants of the Sika, reduction of waste, less training, less skus
In Field Performance: Works in dry, water saturated, water-filled concrete, and submerged conditions	In Field Performance: Works in dry, damp and water saturated concrete	A7+ can be installed in any water conditions including submerged conditions with reduced strength
Work Time at 0°C: 35 Min Work Time at 10°C: 16 Min Work Time at 21°C: 10 Min	Work Time at 0°C: 18 Min Work Time at 10°C: 10 Min Work Time at 20°C: 6 Min	Longer working time allows for installer to do a proper installation without rushing
Cure Time at 0°C: 4 Hours Cure Time at 10°C: 1h 30 min Cure Time at 21°C: 45 min	Cure Time at 0°C: 3h 20 min Cure Time at 10°C: 1h 25 min Cure Time at 20°C: 50 min	
Threaded Rod: 3/8" to 1-1/4" Rebar: #3 to #10	Threaded Rod: 3/8" to 1-1/4" Rebar: #3 to #6	A7+ works for larger sized rebar, up to #10
Resealable	Resealable	
Bond Strength: Comparable	Bond Strength: Weaker bond strength for uncracked concrete and some missing bond strength data for rebar and higher diameter rods	A7+ has stronger bond strengths in uncracked concrete and has values for 1" and 1-1/4" rods while Sika does not. A7+ has rebar bond strength data for cracked concrete while Sika does not. A7+ has little strength reduction with different water conditions and allows submerged conditions.
Approvals: - Cracked concrete and masonry - Seismic approval (A-F) - Wind loading - NSF 61 - Transportation for ON , QC, and BC - ICC ESR 3903 (Concrete) and 3951 (Masonry)	Approvals: - Cracked concrete and masonry - Seismic approval (C-F) - Wind loading - NSF 61 - Transportation for ON, QC - IAPMO UES ER-0601	A7+ has active evaluation report while Sika has expired UES report A7+ has approval for all seismic zones A7+ has been approved under ICC ESR reports for both concrete and masonry with an international accredited certification body

EPCON C6+ vs. RE500 V3



VS.



Red Head C6+

Hilti RE500 V3

Your Benefits

Base Material: Solid Concrete (Cracked & Uncracked)	Base Material: Solid Concrete (Cracked & Uncracked)	
Base Material Temperature: 4°C to 40°C	Base Material Temperature: -5°C to 40°C	
Manufactured: United Kingdom	Manufactured: Liechtenstein	
Shelf Life: 24 Months	Shelf Life: 9 Months	Longer shelf life gives distributors and contractors a longer window to work and make sales. Reduces chance of using expired products
Hole Preparation: Standard cleaning procedure (vacuum, wire brush)	Hole Preparation: Safe Set Technology, Standard cleaning procedure (vacuum, wire brush)	Safe Set Technology not practical for job site conditions and is expensive
Cartridge Size: 10 oz, 20z	Cartridge Size: 11.1oz, 16.9 oz, 47 oz	
Cartridge: Durable Polyethylene	Cartridge: Sausage Tubes	C6+ will not puncture or burst on job site. Sausage tubes crack and become pierced easily
Easy to pump	Easy to pump	
In Field Performance: Works in dry, water saturated and water-filled concrete	In Field Performance: Works in dry, water saturated*, water-filled* and submerged concrete* * Only in hammer-drilled holes	Water filled and submerge application in any type of hole installation
Work Time at 5°C: 20 Min Work Time at 10°C: 20 Min Work Time at 21°C: 11 Min	Work Time at 5°C: 60 Min Work Time at 10°C: 45 Min Work Time at 21°C: 15 Min	
Cure Time at 5°C: 24 Hours Cure Time at 10°C: 12 Hours Cure Time at 21°C: 7 Hours	Cure Time at 5°C: 24 Hours Cure Time at 10°C: 16 Hours Cure Time at 21°C: 6.5 Hours	
Threaded rod: 3/8" to 1-1/4" Rebar: 10M to 25M, 35M	Threaded Rod: 3/8" to 1-1/4" Rebar: 10M to 30M	C6+ has been designed to work on oversized holes
Resealable	Resealable	C6+ cartridges are more user friendly to store and re-use like regular cartridges
Suitable in oversized and diamond cored drilled holes	Suitable in oversized and diamond cored drilled holes	
Minimum Edge Distance/Spacing: Min 1-1/2", Max 2-1/2"	Minimum Edge Distance/Spacing: Min 2.2", Max 5.9"	C6+ has greater versatility which allows contractors and engineers to design closer to building edges
Price: 10oz: ~\$23	Price: 11.1oz: ~\$53.25	C6+ less than half the cost of Hilti RE500 V3
Bond Strength: Comparable	Bond Strength: Comparable	