



HB ER-SF CE

BARCODE
8034013853430
8034013850170
8034013853416

Generic type and use		Ancorante chimico per connessioni post-installate di barre ad aderenza migliorata								
Size covered		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø28	Ø32
lv [mm]	min	in accordo a EN 1992-1-1 e TECHNICAL REPORT TR023								
	max	700	900	1100	1300	1400	1800	2200	2500	2500
		Intermediate depths are included								
Base material and strength class		Normal weight concrete of a minimum grade C12/15 and maximum grade C50/60 according to EN 206-1.								
Base material condition		Cracked and non-cracked concrete.								
Anchor metal material and corresponding environmental exposure		Straight reinforced bars category B or C according to Annex C of EN 199-1-1 table C1 and C2N. Exposure category from X0 to XA according to EN 206-1.								
Type of loading		Static or quasi-static loading. Fatigue, dynamic or seismic loading of post-installed rebar connections are not covered. The fire resistance of the post-installed rebar connections is not covered.								
Service temperature range		-40°C to +80°C (max. short term temperature +80°C and max. long term temperature +50°C).								
Use category		Dry and wet concrete, not flooded hole. Non-carbonated concrete with the allowable chloride content of 0,40% (Cl 0,40) related to the cement content according to EN 206-1. Overhead installation is allowed. Perforation with hammer drilling machine and diamond drilling machine (dry and wet cutting system).								

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5):
 HALFEN S.r.l. - via F.lli Bronzetti 28 - 24124 Bergamo (Italy) – www.halfen.it

5. Where applicable, name and contact address of the authorized representative whose mandate covers the tasks specified in Article 12(2):
 Not applicable

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V:
 System 1

7. In case of the declaration of performance concerning a construction product covered by a harmonized standard:
 Not applicable

8. In case of the declaration of performance concerning a construction product for which a European Technical Assessment has been issued:
 Technical and Test Institute for Construction Prague, SOE issued ETA-13/0266 on the basis of ETAG 001 part 5 and TECHNICAL REPORT TR023.
 ZUS (n°1020) performed:
 the determination of the product type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product; the initial inspection of the factory and of the factory production control; the continuous surveillance; assessment and approval of the factory production control; under system 1 and issue the certificate of conformity
 n° 1010 – CPR – 090-044108.

9. Declared performance:

HARMONIZED TECHNICAL SPECIFICATION: ETAG 001 PART 5 – TECHNICAL REPORT TR023									
ESSENTIAL CHARACTERISTICS	PERFORMANCE ACCORDING TO ETA-13/0266 Design according to paragraph 4.3 ETA-13/0266								
Installation parameters	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø28	Ø32
Ø [mm]	8	10	12	14	16	20	25	28	32
d ₀ [mm]	12	14	16	18	20	25	30	35	40
a [mm]	40 mm ≥ 4·Ø								
C _{min} [mm]	30 + 0,06 l _v ≥ 2·Ø (the minimum concrete cover according to EN 1992-1-1 must be observed)								
Profondità di ancoraggio	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø28	Ø32
l _{b,min} [mm] under tensile	1,5 · max {0,3 · l _{b,reqd} ; 10 Ø; 100 mm}								
l _{b,min} [mm] under compression	1,5 · max {0,6 · l _{b,reqd} ; 10 Ø; 100 mm}								
l _{0,min} [mm]	1,5 · max {0,3 d ₆ l _{b,reqd} ; 15 Ø; 200 mm}								
l _{b,reqd} [mm]	according to EN 1992-1-1 point 8.4.3								
* Design bond strength f_{bd} according to EN 1992-1-1 [N/mm²] for perforation with hammer drilling machine	C12/15	C16/20	20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
da Ø8 a Ø28	1,60	2,00	2,30	2,70	3,00	3,40	3,70	4,00	4,30
Ø32	1,60	2,00	2,30	2,70	3,00	3,40	3,70	4,00	4,00
* Design bond strength f_{bd} according to EN 1992-1-1 [N/mm²] for perforation with diamond drilling machine (dry and wet cutting system)	C12/15	C16/20	20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
da Ø8 a Ø25	1,60	2,00	2,30	2,70	3,00	3,40	3,70	4,00	4,30
Ø28	1,60	2,00	2,30	2,70	3,00	3,40	3,70	3,70	3,70
Ø32	1,60	2,00	2,30	2,70	3,00	3,00	3,00	3,00	3,00

* Values valid only for good bond condition according to EN 1992-1-1. For other bond conditions multiply the values for 0,7

HARMONIZED TECHNICAL SPECIFICATION: ETAG 001 PART 1 PARAGRAPH 5.2.1	
ESSENTIAL CHARACTERISTICS	PERFORMANCE
Reaction to fire	In the final application the thickness of the mortar layer is about 1 to 2 mm and most of the mortar is material classified class A1 according to EC Decision 96/603/EC. Therefore it may be assumed that the bonding material (synthetic mortar or a mixture of synthetic mortar and cementitious mortar) in connection with the metal anchor in the end use application do not make any contribution to fire growth or to the fully developed fire and they have no

	influence to the smoke hazard.
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HARMONIZED TECHNICAL SPECIFICATION: ETAG 001 PART 1 PARAGRAPH 5.2.2 AND TECHNICAL REPORT TR020	
ESSENTIAL CHARACTERISTICS	PERFORMANCE
Resistance to fire	NPD

TERMINOLOGY AND SYMBOLS	
Ø	Nominal diameter of the reinforced bar
d ₀	Drill hole diameter
lv	Setting depth
a	Minimum clear spacing between two post-installed rebar
C _{min}	Minimum concrete cover
l _{b,min}	Minimum anchorage length
l _{o,min}	Minimum overlap joint length
l _{b,reqd}	Required basic anchorage length
NPD	Not determined performance

Regolamento REACH n°1907/2006

Estimate customer,

We inform you that in the REACH supply chain our company is classified as DU: Downstream-user.

About the product detailed in the point 1 we confirm you that we don't use in our production substances classified as SVHC according to the Candidate List published on ECHA site web:

http://echa.europa.eu/chem_data/candidate_list_table_en.asp.

You can require the safety data sheet of the product to our technical department: tecnico@halfen.it or you can download the document from our web site www.halfen.it.

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4. Signed for and on behalf of the manufacturer by:		
Name and function	Place and date of issue	Signature
Ing. Stefano Terletti (Technical Manager)	Bergamo, 21/06/2019	