

729 LANKOSCELFAST



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PRODUCT FEATURES

- ▶ Easy-to-use
- ▶ Awarded two ETAs
- ▶ Compact, ideal for worksite use

CONSUMPTION

- ▶ 380 ml cartridge:
 - M8** = 151 anchorings (Ø 10 mm / depth 64 mm)
 - M10** = 84 anchorings (Ø 12 mm / depth 80 mm)
 - M12** = 51 anchorings (Ø 14 mm / depth 96 mm)
- ▶ Accessories sold separately: Extrusion gun, cleaning kit, static mixer

REFERENCE DOCUMENTS

- ▶ ETA-13/0110 CSTB
- ▶ ETA-13/0114 CSTB
- ▶ ETA-13/0126 ITB

DESCRIPTION

- **729 LANKOSCELFAST** is a methacrylate, styrene-free, chemical sealing resin specially formulated for the solid fixing of threaded rebars in concrete or for the anchoring of metal rods (dual ETA).
- Easy, quick and comfortable to use. High performance, secure bonding even on highly technical worksites: e.g. attachment of metal structures or production of reinforced concrete elements added to existing structures.

USES

- Anchoring of metal rods in concrete
- Secure fixing of threaded rebars in concrete
- Secure fixing of heavy metal structures
- Secure fixing of step-irons and modular ladders (e.g. Caswick)

SPECIFICATIONS

- **Non-flammable resin**
- **Odourless**
- **Fast-setting**
- **High-performance**
- **Mixture ratio:** 10:1
- **Mixture density:** 1.75
- **Setting time (1)**

Temperature	+ 5°C	+ 20°C	+ 30°C
Initial setting	12 min	4 min	1 min
Final setting	1 h 30	30 min	20 min

NB: in damp conditions these times must be doubled.

INSTRUCTIONS

HOLE PREPARATION

- After drilling, thoroughly clean out the hole using the **LANKOSCELFAST** cleaning kit.
- The cleaning procedure described hereafter must in all cases be complied with and performed 3 times in succession:
 - 2 blowing + 2 brushing operations.
 - Only when the hole that is going to receive the rod is totally free of any dust that could adversely affect adherence of the resin can the filling operation begin.

- Filling is performed by inserting the tip of the static mixer right to the very end of the hole. A sufficient quantity of **729 LANKOSCELFAST** can then be pumped out in order to fill the hole halfway, taking care to keep the tip in the resin and working slowly backwards so as to prevent any air from entering the resin.

PREPARING THE 729 LANKOSCELFAST CARTRIDGE

- Screw the static mixer onto the end of the cartridge after removing the protective cap.
- Perform 2 or 3 pumping actions before half-filling the tank.

POSITIONING OF ROD TO BE SEALED

- The rod must be inserted immediately into the hole using a slight twisting action.
- Once the rod is in place, remove any excess resin from the surface around the hole.

RETURN TO SERVICE

- Approximately 1 h 15 at + 20°C (variable factor according to hygrometry).

(1) Working loads have been calculated by using the partial safety factor for resistance indicated in the relevant ETA and a partial safety factor for YF actions = 1.4. Working loads are validated for non-reinforced and reinforced concrete, with rebar spacing $s \geq 15$ cm or $s \geq 10$ cm for rebars with a diameter of 10 mm or less.

(2) Working loads for shearing are based on a single plug with no edge influence. For shearing applied close to an edge ($c \leq 10$ hef and 60d), concrete member edge failure should be assessed in accordance with ETAG 001, Annex C, calculation method A.

(3) Concrete is considered as being non-cracked when tensile stress within the concrete is $OR = 3$ N/mm² (NB: OL is equal to tensile stress within concrete resulting from external loads, included force exerted on plugs).

(4) If spacing or distance from edge is below the characteristic value (i.e. $s \leq Sor.N$ and/or $C \leq Cor.N$) a calculation in accordance with ETAG 001, Annex C, method A must be performed. For full details, please refer to the relevant ETAs, i.e. ETA-13/0110 ETA-13/0114 and ETA-13/0126.

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Technical data for threaded rebars

Positioning data

Standard rod diameter, d	M8		M10		M12		M16		M20	
Drill bit diameter, d_0	10 mm		12 mm		14 mm		18 mm		22 mm	
Hole depth, h_0	64 mm	96 mm	80 mm	120 mm	96 mm	144 mm	128 mm	192 mm	160 mm	240 mm
Clearance hole in element to attach d	9 mm		12 mm		14 mm		18 mm		22 mm	
Opening on plates, sw	13 mm		17 mm		19 mm		24 mm		30 mm	
Tightening torque, T_{inst}	10 Nm		20 Nm		40 Nm		80 Nm		150 Nm	

Standard values for traction and shearing resistance

Standard rod diameter, d	M8		M10		M12		M16		M20		
Effective anchoring depth, h_{et}	64 mm	96 mm	80 mm	120 mm	96 mm	144 mm	128 mm	192 mm	160 mm	240 mm	
Traction working load ⁽¹⁾ in non-cracked concrete ⁽²⁾ C20/25 - C50/60, N_{perm}	A4-70 S.Steel	9,1 kN		14,2 kN	14,3 kN	19 kN	20,6 kN	28,5 kN	38,8 kN	54,7 kN	
	5,8 el.gzd Steel	9,7 kN			15,4 kN		22,1 kN		41,3 kN		
Shear working load ^{(1) (2)} in non-cracked concrete ⁽²⁾ C20/25 - C50/60, V_{perm}	A4-70 S.Steel	4,5 kN		7,2 kN		10,4 kN		19,4 kN		30,3 kN	
	5,8 el.gzd Steel	5,8 kN		9,2 kN		13,5 kN		25,1 kN		39,2 kN	
Bending moment ⁽¹⁾ , M_{perm}	A4-70 S.Steel	9 kN		18,5 kN		32,4 kN		83,4 kN		160,5 kN	
	5,8 el.gzd Steel	11,9 kN		23,8 kN		42,1 kN		106,6 kN		208,8 kN	

Spacing, distance from edge and concrete member thickness

Standard rod diameter, d	M8		M10		M12		M16		M20	
Effective anchoring depth, h_{et}	64 mm	96 mm	80 mm	120 mm	96 mm	144 mm	128 mm	192 mm	160 mm	240 mm
Characteristic spacing ⁽⁴⁾ , $S_{cr,N}$	128 mm	192 mm	160 mm	240 mm	192 mm	288 mm	256 mm	384 mm	320 mm	480 mm
Minimum spacing, S_{min}	35 mm	48 mm	40 mm	60 mm	48 mm	72 mm	64 mm	96 mm	80 mm	120 mm
Characteristic distance to edge ⁽⁴⁾ , $C_{cr,N}$	64 mm	96 mm	80 mm	120 mm	96 mm	144 mm	128 mm	192 mm	160 mm	240 mm
Minimum distance to edge, C_{min}	35 mm	48 mm	40 mm	60 mm	48 mm	72 mm	64 mm	96 mm	80 mm	120 mm
Minimum concrete thickness, h_{min}	100 mm	130 mm	110 mm	150 mm	130 mm	175 mm	160 mm	225 mm	200 mm	280 mm

Technical data for concrete rods

Positioning data (1)

Standard rod diameter, d	M8	M10	M12	M14	M16	M20	M25	M28	M32
Drill bit diameter, d_0	12 mm	14 mm	16 mm	18 mm	20 mm	25 mm	30 mm	35 mm	40 mm
Clearance hole in element to attach, d_f	17 mm	20 mm	30 mm	30 mm	30 mm	32 mm	35 mm	37 mm	42 mm
Minimum anchoring depth, $l_{b,min}$	115 mm	145 mm	170 mm	200 mm	230 mm	285 mm	355 mm	600 mm	685 mm
Minimum anchoring depth: coverage, $l_{c,min}$	200 mm	200 mm	200 mm	210 mm	240 mm	300 mm	375 mm	630 mm	720 mm
Maximum anchoring depth, $l_{c,min}$	400 mm	500 mm	600 mm	700 mm	800 mm	1000 mm	1000 mm	1000 mm	1000 mm

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PACKAGING

- ▶ 380 ml cartridge
- ▶ 280 ml cartridge

STORAGE

- ▶ **18 months**

from date of manufacture if stored in unopened original packing in dry conditions

Characteristic values for ultimate load resistance as stipulated in EN 1992-1-1(2)

Standard rod diameter, d	M8	M10	M12	M14	M16	M20	M25	M28	M32
Drill bit diameter, d_0	12 mm	14 mm	16 mm	18 mm	20 mm	25 mm	30 mm	35 mm	40 mm
Clearance hole in element to attach, d_i	17 mm	20 mm	30 mm	30 mm	30 mm	32 mm	35 mm	37 mm	42 mm
Minimum anchoring depth, $l_{b,min}$	115 mm	145 mm	170 mm	200 mm	230 mm	285 mm	355 mm	600 mm	685 mm
Minimum anchoring depth: coverage, $l_{c,min}$	200 mm	200 mm	200 mm	210 mm	240 mm	300 mm	375 mm	630 mm	720 mm
Maximum anchoring depth, $l_{c,max}$	400 mm	500 mm	600 mm	700 mm	800 mm	1000 mm	1000 mm	1000 mm	1000 mm

Spacing, distance from edge and concrete member thickness

Standard rod diameter	M8 / M10 / M12	M14 / M16	M20 / M25	M28	M32
Ultimate strength F_{bd}	C12/15	1,6 N/mm ²	1,6 N/mm ²	1,6 N/mm ²	1,6 N/mm ²
	C16/20	2 N/mm ²	2 N/mm ²	2 N/mm ²	2 N/mm ²
	C20/25	2,3 N/mm ²	2,3 N/mm ²	2,3 N/mm ²	2,3 N/mm ²
	C25/30	2,7 N/mm ²	2,7 N/mm ²	2,7 N/mm ²	2,7 N/mm ²
	C30/37	3 N/mm ²	3 N/mm ²	3 N/mm ²	3 N/mm ²
	C35/45	3,4 N/mm ²	3,4 N/mm ²	3,4 N/mm ²	3,4 N/mm ²
	C40/50	3,7 N/mm ²	3,7 N/mm ²	3,4 N/mm ²	3,4 N/mm ²
	C45/55	4 N/mm ²	4 N/mm ²	3,4 N/mm ²	3,4 N/mm ²
	C50/60	4,3 N/mm ²	4 N/mm ²	3,7 N/mm ²	3,4 N/mm ²

TECHNICAL ASSISTANCE: ParexGroup S.A. will, on request, provide information and assistance to companies in relation to the specific use of a product. Such assistance shall not be assimilated with structural design and conception, nor the compliance of substrates, nor as a control of usage rules in force.

TECHNICAL DATA SHEET ISSUED - September 2017

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(1) Minimum anchoring depth for metal rods: $l_{b,min} = 1.5 \times \max [0.3 \times l_{b,req}; 10 \text{ } \varnothing; 100 \text{ mm}]$. Minimum coverage: $l_{c,min} = 1.5 \times \max [0.3 \times 6 \times l_{b,req}; 15 \text{ } \varnothing; 200 \text{ mm}]$

(2) Values provided in the table are for «good bonding conditions» as defined by EN 1992-1-1. For all other conditions, values should be multiplied by 0.7. Minimum concrete coating: $C_{min} = 30 + 0.06 l_v \geq 2 \times \varnothing$ [mm]. Minimum spacing between 2 metal rods: $a = 4 \text{ mm} \geq 4 \times \varnothing$.