

## SOUDAFIX VE400-SF

Felülvizsgálat időpontja: 20/06/2014

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### Technikai adatok:

Bázis	Vinylester styrene free		
Konzisztencia	Stable paste		
Kötési rendszer	Kémiai reakció		
(1) Kartus hőmérséklet = 15°C	Hőmérséklet	Kezd	Teljes kötés <sup>(2)</sup>
(2) Kötési idő száraz felületen (20°C/65% R.H.)	≥-10°C <sup>(1)</sup>	90 min	24 u
(x2 nedves felületen)	≥-5°C	90 min	14 u
	≥0°C	45 min	7h
	≥5°C	25 min	2 u
	≥10°C	15 min	80 min
	≥20°C	6 min	45 min
	≥30°C	4 min	25 min
	≥35°C	2 min	20 min
	≥40°C	1,5 min	15 min
Fajsúly	1,77 g/cm <sup>3</sup>		
termikus stabilitás	- 40°C to + 120°C		
Rugalmasság	14000 N/mm <sup>2</sup>		
Maximális hajlító erő	15 N/mm <sup>2</sup>		
Maximális sűrítési erő	100 N/mm <sup>2</sup>		

### Termék:

SOUDAFIX VE280-SF két komponensű rögzítő habarcs mentes rudak, horgonyok, szerelési rögzítők, horgonyhüvelyek feszültségmentes rögzítésére, mind tömör mind üreges építőanyagokban, mint például beton, repedt beton, tömör téglá, üreges téglá, lyukacsos beton, természetes, gipszkarton falak, stb.

### Tulajdonságok:

- Jól és egyszerűen feldolgozható szabványos tömíti pisztollyal
- Könnyen alkalmazható
- Gyors kikeményedés
- Nagyon széles felhasználási terület, még nedves fűrólyukakban is, víz alatt és -5°C-ig
- Sztírolt nem tartalmaz, illatszegény
- A hüvely újra használható egy új keverőszár használatával
- Vízálló és vizet nem áteresztő rögzítés
- Nagy ellenálló képesség a vegyi anyagokkal szemben.
- Tűzállósági osztály F 120
- **Európai Műszaki Engedély az alkalmazásra**

### Alkalmazási terület:

Nehéz terhelésű rögzítések biztosítása tömör és üreges építőanyagokban.  
Feszültségmentes rögzítés a széleken.  
Javítóhabarcsként is használják.

### Szállítási forma:

*Színek:* sötétszürke a keverés után  
*Csomagolás:* 280 ml-es hüvely kétkomponensű pisztolyhoz

### Eltarthatóság:

18 hónap bontalan csomagolásban, egy hűvös és száraz helyen, +5°C és +25°C közötti hőmérsékleten tárolva.

### Alapok:

*Típus:* Minden szokásos porózus építési alap, sima, nem porózus anyagokra nem is jól tapad  
*Állapot:* Tiszta, pormentes és száraz  
*Előkezelés:* Az alap előzetes kezelése is szükséges. Üreges anyagokban egy szitahüvely használata szükséges.

### Használat:

*Felviteli módszer:* Kétkomponensű pisztoly  
*Alkalmazási hőmérséklet:* +5°C-tól +35°C-ig

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Technical Data Sheet

## Tisztítószer:

*Kikeményedés előtt:* Törölje le a fölösleges terméket száraz kendővel, és azután tisztítsa meg

oldószerbenzinnel vagy acetonnal

*Kikeményedés után:* Legtöbbször ajánlott hagyni a terméket kikeményedni úgy, hogy könnyen el lehessen távolítani kalapáccsal és vésővel.

*Javítási lehetőség:* SOUDAFIX VE280-SF alkalmazásával.

## Biztonsági utasítások:

A szokásos ipari higiénébe be kell tartani.

Zárt terekben kielégíti szellőzést kell biztosítani.

További információkra vonatkozóan lásd a csomagolást.

## Megjegyzések:

- Fennáll a foltképződés lehetőségé porózus alapokon, mint például terméskövön. Ezekre az alapokra egy előzetes összeférhetőségi vizsgálat elvégzése szükséges.

## Munkamódszer:

- Fúrjon egy lyukat a javasolt mélységre.
- Tisztítsa meg a furatot kefével és fúvassa ki.
- Csavarozza a keverő csövet a hüvelyre.
- Engedje ki az első 10 cm –t a termékből egy kartondarabra a termék homogén összekeveréséhez (sötétszürke színig)
- Tömör kő: Töltse meg a furatot alulról felfelé.
- Üreges kő: Helyezze be a szitát, és töltse meg alulról felfelé úgy, hogy a termék a szitahüvely nyílásain átpréselődjön.
- Helyezze be a horgonyrudat balra-jobbra forgatva.
- Ellenőrizze furat jó megtöltését.
- Tartsa be a kikeményedési időt. E közben a horgonyrudat már ne mozgassa.
- Hagyja a fölösleges terméket is kikeményedni. A kikeményedés után mechanikusan könnyen el lehet távolítani kalapács és véső segítségével.
- A tárgy rögzítése



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**Menetes furatok:**

Menetes szár átmérő	d	mm	M8	M10	M12	M16	M20	M24	M27	M30
Furat átmérő	$D_0$	mm	10	12	14	18	24	28	32	35
Min dübel mélység	$h_{ef,min}$	mm	60	60	70	80	90	96	108	120
Max dübel mélység	$h_{ef,max}$	mm	160	200	240	320	400	480	540	600
Min él táv	$c_{min}$	mm	40	50	60	80	100	120	135	150
Min tengely távolság	$s_{min}$	mm	40	50	60	80	100	120	135	150
Feszítő nyomaték	$T_{inst}$	Nm	10	20	40	80	120	160	180	200

**Betonvas rudak:**

Betonvas	d	mm	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø28	Ø32
Furat átmérő	$D_0$	mm	12	14	16	18	20	24	32	35	40
Min dübel mélység	$h_{ef,min}$	mm	60	60	70	75	80	90	100	112	128
Max dübel mélység	$h_{ef,max}$	mm	160	200	240	280	320	400	480	540	640
Min él táv	$c_{min}$	mm	40	50	60	70	80	100	125	140	160
Min tengely távolság	$s_{min}$	mm	40	50	60	70	80	100	125	140	160

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Table 1: Characteristic tensile strength of threaded rods in uncracked concrete according to TR029											
Diameter threaded rod			M8	M10	M12	M16	M20	M24	M27	M30	
<b>Steel failure</b>											
Characteristic tensile strength, steel class 4.6	$N_{Rk,s}$	kN	15	23	34	63	98	141	184	224	
Partial safety factor	$\gamma_{Ms,N}^{1)}$		2.0								
Characteristic tensile strength, steel class 5.8	$N_{Rk,s}$	kN	18	29	42	78	122	176	230	280	
Characteristic tensile strength, steel class 8.8	$N_{Rk,s}$	kN	29	46	67	125	196	282	368	449	
Partial safety factor	$\gamma_{Ms,N}^{1)}$		1.5								
Characteristic tensile strength, stainless steel A4 and HCR, class 50 (>M24) and 70 ( $\leq$ M24)	$N_{Rk,s}$	kN	26	41	59	110	171	247	230	281	
Partial safety factor	$\gamma_{Ms,N}^{1)}$		1.87						2.86		
<b>Combined pullout and concrete cone failure</b>											
Characteristic bond resistance in uncracked concrete C20/25											
Dry and wet concrete	Temperature range I: 40°C to 24°C	$T_{Rk,unr}$	N/mm <sup>2</sup>	10	12	12	12	12	11	10	9
	Temperature range II: 80°C to 50°C	$T_{Rk,unr}$	N/mm <sup>2</sup>	7.5	9	9	9	9	8.5	7.5	6.5
	Temperature range III: 120°C to 72°C	$T_{Rk,unr}$	N/mm <sup>2</sup>	5.5	6.5	6.5	6.5	6.5	6.5	5.5	5.0
	Partial safety factor	$\gamma_{Mc} = \gamma_{Mp}^{1)}$		1.5 <sup>2)</sup>	1.8 <sup>3)</sup>						
Flooded bore hole	Temperature range I: 40°C to 24°C	$T_{Rk,unr}$	N/mm <sup>2</sup>	7.5	8.5	8.5	8.5	Notadmissible			
	Temperature range II: 80°C to 50°C	$T_{Rk,unr}$	N/mm <sup>2</sup>	5.5	6.5	6.5	6.5				
	Temperature range III: 120°C to 72°C	$T_{Rk,unr}$	N/mm <sup>2</sup>	4.0	5.0	5.0	5.0				
	Partial safety factor	$\gamma_{Mc} = \gamma_{Mp}^{1)}$		2.1 <sup>4)</sup>							
Increasing factors for uncracked concrete $\Psi_c$	C30/37		1.04								
	C40/50		1.08								
	C50/60		1.10								
<b>Spitting failure</b>											
Edge distance	$C_{cr,sp}$	mm	$1,0 \cdot h_{ef} \leq 2 \cdot h_{ef} \quad (2,5 - h/h_{ef}) \leq 2,4 \cdot h_{ef}$								
Spacing	$S_{cr,sp}$	mm	$2 \cdot C_{cr,sp}$								
Partial safety factor (dry and wet concrete)	$\gamma_{Msp}^{1)}$		1.5 <sup>2)</sup>	1.8 <sup>3)</sup>							
Partial safety factor (flooded bore hole)	$\gamma_{Msp}^{1)}$		2.1 <sup>4)</sup>				Notadmissible				

<sup>1)</sup> In absence of national regulations

<sup>2)</sup> Partial safety factor  $\gamma_2 = 1.0$  is included

<sup>3)</sup> Partial safety factor  $\gamma_2 = 1.2$  is included

<sup>4)</sup> Partial safety factor  $\gamma_2 = 1.4$  is included

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**Table 2: Characteristic tensile strength of threaded rods in cracked concrete according to TR029**

Diameter threaded rod			M12	M16	M20	M24	M27	M30	
<b>Steel failure</b>									
Characteristic tensile strength, steel class 4.6	$N_{Rk,s}$	kN	34	63	98	141	184	224	
Partial safety factor	$\gamma_{Ms,N}^{1)}$		2.00						
Characteristic tensile strength, steel class 5.8	$N_{Rk,s}$	kN	42	78	122	176	230	280	
Characteristic tensile strength, steel class 8.8	$N_{Rk,s}$	kN	67	125	196	282	368	449	
Partial safety factor	$\gamma_{Ms,N}^{1)}$		1.50						
Characteristic tensile strength, stainless steel A4 and HCR, class 50 (>M24) and 70 ( $\leq$ M24)	$N_{Rk,s}$	kN	59	110	171	247	230	281	
Partial safety factor	$\gamma_{Ms,N}^{1)}$		1.87				2.86		
<b>Combined pullout and concrete cone failure</b>									
Characteristic bond resistance in uncracked concrete C20/25									
Dry and wet concrete	Temperature range I: 40°C to 24°C	$T_{Rk,cr}$	N/mm <sup>2</sup>	5.5	5.5	5.5	5.5	6.5	6.5
	Temperature range II: 80°C to 50°C	$T_{Rk,cr}$	N/mm <sup>2</sup>	4.0	4.0	4.0	4.0	4.5	4.5
	Temperature range III: 120°C to 72°C	$T_{Rk,cr}$	N/mm <sup>2</sup>	3.0	3.0	3.0	3.0	3.5	3.5
	Partial safety factor	$\gamma_{Mc} = \gamma_{Mp}^{1)}$		1.80					
Flooded bore hole	Temperature range I: 40°C to 24°C	$T_{Rk,cr}$	N/mm <sup>2</sup>	5.5	5.5	Not admissible			
	Temperature range II: 80°C to 50°C	$T_{Rk,cr}$	N/mm <sup>2</sup>	4.0	4.0				
	Temperature range III: 120°C to 72°C	$T_{Rk,cr}$	N/mm <sup>2</sup>	5.0	5.0				
	Partial safety factor	$\gamma_{Mc} = \gamma_{Mp}^{1)}$		2.10					
Increasing factors for uncracked concrete $\Psi_c$	C30/37		1.04						
	C40/50		1.08						
	C50/60		1.10						
<b>Spitting failure</b>									
Edge distance	$C_{cr,sp}$	mm	$1,0 \cdot h_{ef} \leq 2 \cdot h_{ef} (2,5 - h/h_{ef}) \leq 2,4 \cdot h_{ef}$						
Spacing	$S_{cr,sp}$	mm	$2 C_{cr,sp}$						
Partial safety factor (dry and wet concrete)	$\gamma_{Msp}^{1)}$		1.8 <sup>2)</sup>						
Partial safety factor (flooded bore hole)	$\gamma_{Msp}^{1)}$		2.1 <sup>3)</sup>			Not admissible			

<sup>1)</sup> In absence of national regulations

<sup>2)</sup> Partial safety factor  $\gamma_2 = 1.0$  is included

<sup>3)</sup> Partial safety factor  $\gamma_2 = 1.2$  is included

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Table 3: Characteristic values for shear loads in cracked and uncracked concrete according to TR029											
Diameter threaded rod			M8	M10	M12	M16	M20	M24	M27	M30	
<b>Steel failure without lever arm</b>											
Characteristic shear resistance, steel class 4.6	$V_{Rk,s}$	kN	7	12	17	31	49	71	92	112	
Partial safety factor	$\gamma_{Ms,V}^{1)}$		1.67								
Characteristic shear resistance, steel class 5.8	$V_{Rk,s}$	kN	9	15	21	39	61	88	115	140	
Characteristic shear resistance, steel class 8.8	$V_{Rk,s}$	kN	15	23	34	63	98	141	184	224	
Partial safety factor	$\gamma_{Ms,V}^{1)}$		1.25								
Characteristic shear resistance, stainless steel A4 and HCR, class 50 (>M24) and 70 ( $\leq$ M24)	$N_{Rk,s}$	kN	13	20	30	55	86	124	115	140	
Partial safety factor	$\gamma_{Ms,V}^{1)}$		1.56						2.38		
<b>Steel failure with lever arm</b>											
Characteristic shear resistance, steel class 4.6	$V_{Rk,s}$	kN	15	30	52	133	260	449	666	900	
Partial safety factor	$\gamma_{Ms,V}^{1)}$		1.67								
Characteristic shear resistance, steel class 5.8	$V_{Rk,s}$	kN	19	37	65	166	324	560	833	1123	
Characteristic shear resistance, steel class 8.8	$V_{Rk,s}$	kN	30	60	105	266	519	896	1333	1797	
Partial safety factor	$\gamma_{Ms,V}^{1)}$		1.25								
Characteristic shear resistance, stainless steel A4 and HCR, class 50 (>M24) and 70 ( $\leq$ M24)	$N_{Rk,s}$	kN	26	52	92	232	454	784	832	1125	
Partial safety factor	$\gamma_{Ms,V}^{1)}$		1.56						2.38		
<b>Concrete pryout failure</b>											
Factor k in equation (5.7) of Technical Report TR029 for Design of Bonded Anchors			2.0								
Partial safety factor	$\gamma_{Mcp}^{1)}$		1.5 <sup>2)</sup>								
<b>Concrete edge failure</b>											
See section 5.2.3.4 of Technical Report TR029 for Design of Bonded Anchors											
Partial safety factor	$\gamma_{Mc}^{1)}$		1.5 <sup>2)</sup>								

<sup>1)</sup> In absence of national regulations

<sup>2)</sup> Partial safety factor  $\gamma_2 = 1.0$  is included

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Table 4: Characteristic tensile strength in uncracked concrete according to TR029												
Diameter reinforcing bar			Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 20	Ø 25	Ø 28	Ø 32	
<b>Steel failure</b>												
Characteristic tensile strength reinforcing bar according to ETA-10/0167 Annex 4			$N_{Rk,s}$	kN	$A_s \cdot x_{f,uk}$							
Partial safety factor			$\gamma_{Ms,N}^{1)}$	TR 029 Section 3.2.2.2, Eq. 3.3a								
<b>Combined pullout and concrete cone failure</b>												
Characteristic bond resistance in uncracked concrete C20/25												
Dry and wet concrete	Temperature range I: 40°C to 24°C	$T_{Rk,ucr}$	N/mm <sup>2</sup>	10	12	12	12	12	12	11	10	8.5
	Temperature range II: 80°C to 50°C	$T_{Rk,ucr}$	N/mm <sup>2</sup>	7.5	9	9	9	9	9	8.0	7.0	6.0
	Temperature range III: 120°C to 72°C	$T_{Rk,ucr}$	N/mm <sup>2</sup>	5.5	6.5	6.5	6.5	6.5	6.5	6.0	5.0	4.5
	Partial safety factor	$\gamma_{Mc} = \gamma_{Mp}^{1)}$		1.5 <sup>2)</sup>	1.8 <sup>3)</sup>							
Flooded bore hole	Temperature range I: 40°C to 24°C	$T_{Rk,ucr}$	N/mm <sup>2</sup>	7.5	8.5	8.5	8.5	8.5	Not admissible			
	Temperature range II: 80°C to 50°C	$T_{Rk,ucr}$	N/mm <sup>2</sup>	5.5	6.5	6.5	6.5	6.5				
	Temperature range III: 120°C to 72°C	$T_{Rk,ucr}$	N/mm <sup>2</sup>	4.0	5.0	5.0	5.0	5.0				
	Partial safety factor	$\gamma_{Mc} = \gamma_{Mp}^{1)}$		2.1 <sup>4)</sup>								
Increasing factors for uncracked concrete $\Psi_c$		C30/37		1.04								
		C40/50		1.08								
		C50/60		1.10								
<b>Spitting failure</b>												
Edge distance		$C_{cr,sp}$	mm	$1,0 \cdot h_{ef} \leq 2 \cdot h_{ef} \quad (2,5 - h/h_{ef}) \leq 2,4 \cdot h_{ef}$								
Spacing		$S_{cr,sp}$	mm	$2 \cdot c_{cr,sp}$								
Partial safety factor (dry and wet concrete)		$\gamma_{Msp}^{1)}$		1.5 <sup>2)</sup>	1.8 <sup>3)</sup>							
Partial safety factor (flooded bore hole)		$\gamma_{Msp}^{1)}$		2.1 <sup>4)</sup>					Not admissible			

<sup>1)</sup> In absence of national regulations

<sup>2)</sup> Partial safety factor  $\gamma_2 = 1.0$  is included

<sup>3)</sup> Partial safety factor  $\gamma_2 = 1.2$  is included

<sup>4)</sup> Partial safety factor  $\gamma_2 = 1.4$  is included

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Table 5: Characteristic tensile strength in cracked concrete according to TR029											
Diameter reinforcing bar			Ø 12	Ø 14	Ø 16	Ø 20	Ø 25	Ø 28	Ø 32		
<b>Steel failure</b>											
Characteristic tensile strength reinforcing bar according to ETA-10/0167 Annex 4			$N_{Rk,s}$	kN	$A_s x f_{uk}$						
Partial safety factor			$\gamma_{Ms,N}^{1)}$	TR 029 Section 3.2.2.2, Eq. 3.3 a							
<b>Combined pullout and concrete cone failure</b>											
Characteristic bond resistance in uncracked concrete C20/25											
Dry and wet concrete	Temperature range I: 40°C to 24°C		$T_{Rk,cr}$	N/mm <sup>2</sup>	5.5	5.5	5.5	5.5	5.5	6.5	6.5
	Temperature range II: 80°C to 50°C		$T_{Rk,cr}$	N/mm <sup>2</sup>	4.0	4.0	4.0	4.0	4.0	4.5	4.5
	Temperature range III: 120°C to 72°C		$T_{Rk,cr}$	N/mm <sup>2</sup>	3.0	3.0	3.0	3.0	3.0	3.5	3.5
	Partial safety factor		$\gamma_{Mc} = \gamma_{Mp}^{1)}$	1.8 <sup>2)</sup>							
Flooded bore hole	Temperature range I: 40°C to 24°C		$T_{Rk,cr}$	N/mm <sup>2</sup>	5.5	5.5	5.5	Not admissible			
	Temperature range II: 80°C to 50°C		$T_{Rk,cr}$	N/mm <sup>2</sup>	4.0	4.0	4.0				
	Temperature range III: 120°C to 72°C		$T_{Rk,cr}$	N/mm <sup>2</sup>	3.0	3.0	3.0				
	Partial safety factor		$\gamma_{Mc} = \gamma_{Mp}^{1)}$	2.1 <sup>4)</sup>							
Increasing factors for uncracked concrete $\Psi_c$			C30/37	1.04							
			C40/50	1.08							
			C50/60	1.10							
<b>Spitting failure</b>											
Edge distance			$C_{cr,sp}$	mm	$1,0 \cdot h_{ef} \leq 2 \cdot h_{ef} \quad (2,5 - h/h_{ef}) \leq 2,4 \cdot h_{ef}$						
Spacing			$S_{cr,sp}$	mm	$2 C_{cr,sp}$						
Partial safety factor (dry and wet concrete)			$\gamma_{Msp}^{1)}$	1.8 <sup>2)</sup>							
Partial safety factor (flooded bore hole)			$\gamma_{Msp}^{1)}$	2.1 <sup>4)</sup>				Not admissible			

<sup>1)</sup> In absence of national regulations

<sup>2)</sup> Partial safety factor  $\gamma_2 = 1.0$  is included

<sup>3)</sup> Partial safety factor  $\gamma_2 = 1.2$  is included

<sup>4)</sup> Partial safety factor  $\gamma_2 = 1.4$  is included

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Table 6: Characteristic values for shear loads in cracked and uncracked concrete according to TR029									
Diameter wapeningsstaaf	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 20	Ø 25	Ø 28	Ø 32
<b>Steel failure without lever arm</b>									
Characteristic shear resistance reinforcing bar according to ETA-10/0167 Annex 4	$V_{Rk,s}$	kN	0,50 x $A_s \times f_{uk}$						
Partial safety factor	$\gamma_{Ms,V}^{1)}$	TR 029 Section 3.2.2.2, Eq. 3.3 b+c							
<b>Steel failure with lever arm</b>									
Characteristic bending moment reinforcing bar according to ETA-10/0167 Annex 4	$M_{Rk,s}^0$	kN	1,2 x $W_{el} \times f_{uk}$						
Partial safety factor	$\gamma_{Ms,V}^{1)}$	TR 029 Section 3.2.2.2, Eq. 3.3 b+c							
<b>Concrete pryout failure</b>									
Factor k in equation (5.7) of Technical Report TR029 for Design of Bonded Anchors			2.0						
Partial safety factor	$\gamma_{Mcp}^{1)}$	1.5 <sup>2)</sup>							
<b>Concrete edge failure</b>									
See section 5.2.3.4 of Technical Report TR029 for Design of Bonded Anchors									
Partial safety factor	$\gamma_{Mc}^{1)}$	1.5 <sup>2)</sup>							

<sup>1)</sup> In absence of national regulations

<sup>2)</sup> Partial safety factor  $\gamma_2 = 1.0$  is included

Remark: The directives contained in this documentation are the result of our experiments and of our experience and have been submitted in good faith. Because of the diversity of the materials and substrates and the great number of possible applications which are out of our control, we cannot accept any responsibility for the results obtained. In every case it is recommended to carry out preliminary experiments.