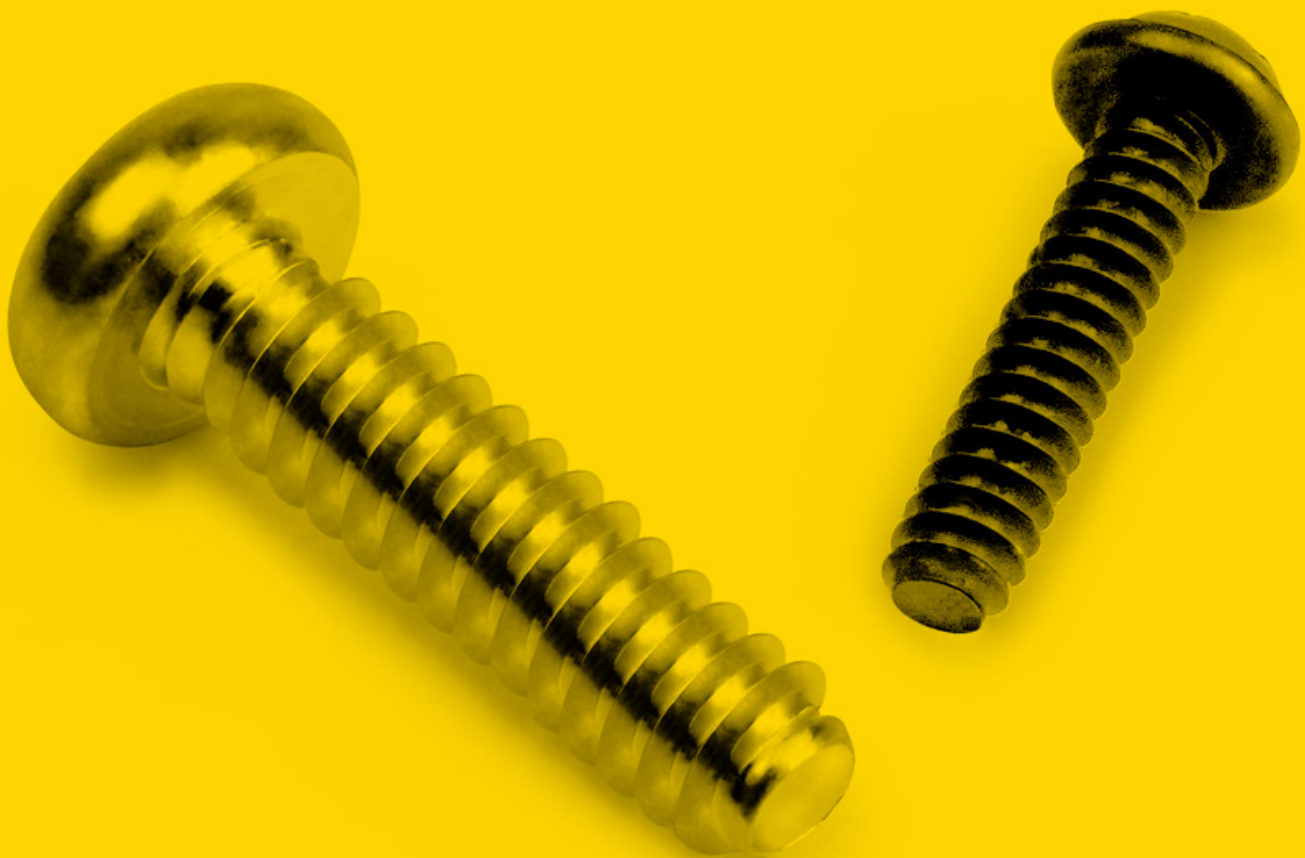


CELO

REMFORM® II F™

**Assembly of very hard plastic and
thermoset materials**



REMFORM® II F™



REMFORM® II F™ (Fine Thread) screws are especially recommended for the direct assembly of low ductility materials, such as high content glass fiber reinforced plastics, thermoset plastics, phenolic resins and application in plastic where the length of engagement is lower than optimal.

1. Technical features

REMFORM® II F™ thread employs the Asymmetric thread design of REMFORM® II HS™ but increased core diameter and smaller thread pitch, **adapted to the assembly requirements of materials with low ductility.**

The smaller pitch thread of REMFORM® II F™ screw increases the number of threads along the shank of the screw. In this way, the number of contact points increases and consequently, **pull-out resistance is greatly improved.**

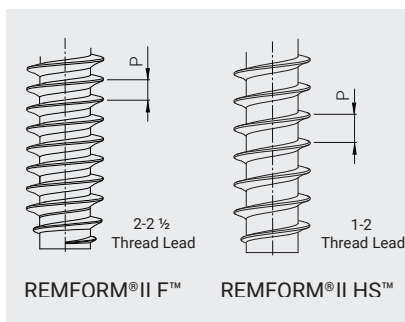


Fig.5. For the same screw diameter and engagement, the smaller pitch of REMFORM® II F™ thread increases the number of contact points with the base material.

2. Advantages

- The low radial forces **minimize the risk of overstressing and cracking of the plastic.**
- Tensile strength of over 1,000 N/mm² and reduced thread pitch **ensures high pull-out resistance.**
- Larger core diameter provides **higher torsional and tensile strength**, fundamental requirement for the assembly of low ductility materials.
- Reduced length of engagement enables the assembly of plastic with low insertion depth **assuring high clamping and pull-out resistance.**
- Low thread forming torque and high stripping torque offer **optimal safety during assembly.**

The technical advantages of REMFORM® II F™ screw directly results in a **more resistant assembly**, greater safety during threading and **lower costs** of the assembly process.

3. Boss design recommendations

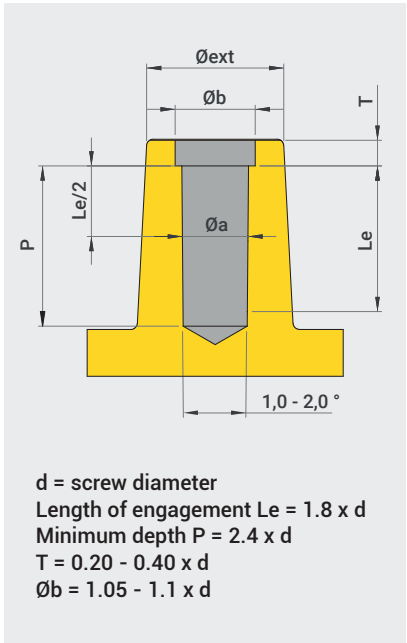
In order to ensure a safe installation and stable clamping force, it is important to pay attention to the boss design, as it must resist mold extraction and cooling tension, as well as tension created during screw installation.

The boss dimensions will vary based on the type of plastic. It's important to include a relief bore to prevent damaging the boss when starting thread forming. The relief bore also helps to align the screw during threading.

For additional information, please contact our technical department.

Material	$\varnothing a$	$\varnothing ext$	Material	$\varnothing a$	$\varnothing ext$
PC	$0.83 \times d$	$2.2 - 2.6 \times d$	PP +30GF	$0.86 \times d$	$2.1 - 2.5 \times d$
PE + 30GF	$0.83 \times d$	$2.2 - 2.6 \times d$	POM + 30GF	$0.86 \times d$	$2.1 - 2.5 \times d$
PA6 + 15GF	$0.83 \times d$	$2.2 - 2.6 \times d$	PA6 + 30GF	$0.86 \times d$	$2.1 - 2.5 \times d$
PC + 10GF	$0.84 \times d$	$2.2 - 2.6 \times d$	PA66 + 30GF	$0.86 \times d$	$2.1 - 2.5 \times d$
PMMA	$0.84 \times d$	$2.2 - 2.6 \times d$	PPA + 30GF	$0.86 \times d$	$2.1 - 2.5 \times d$
PA66 + 15GF	$0.84 \times d$	$2.2 - 2.6 \times d$	PET + 30GF	$0.86 \times d$	$2.1 - 2.5 \times d$
ABS + 20GF	$0.84 \times d$	$2.1 - 2.5 \times d$	PBT + 30GF	$0.86 \times d$	$2.1 - 2.5 \times d$
PPO + 30GF	$0.86 \times d$	$2.1 - 2.5 \times d$	PS + 30GF	$0.87 \times d$	$2.1 - 2.5 \times d$
ABS +30GF	$0.86 \times d$	$2.1 - 2.5 \times d$	PPS + 40GF	$0.87 \times d$	$2.1 - 2.5 \times d$
PC + 30GF	$0.86 \times d$	$2.1 - 2.5 \times d$	PA6/PA66 +45GF	$0.88 \times d$	$2.1 - 2.5 \times d$

This data is intended for guidance purposes. We recommend carrying out relevant tests on plastic parts to establish the precise values.



Suggested tolerances are:
 +0.08 mm for holes $\leq \varnothing 3.0$ mm
 +0.10 mm for holes $\varnothing 3.0 - \varnothing 4.5$ mm
 +0.12 mm for holes $> \varnothing 4.5$ mm

4. Applications

REMFORM® II F™ screws are recommended for the assembly of highly reinforced plastics and thermoplastic parts in applications where the length of engagement is lower than optimal.

Automotive, electric material, electronics and household appliances, liquid pumps.



Fig.6. Eliminates the use of inserts and avoids damage in polyester part.

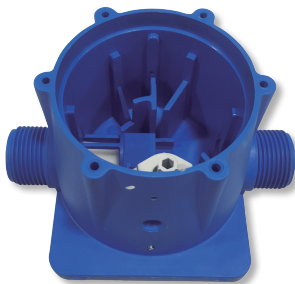
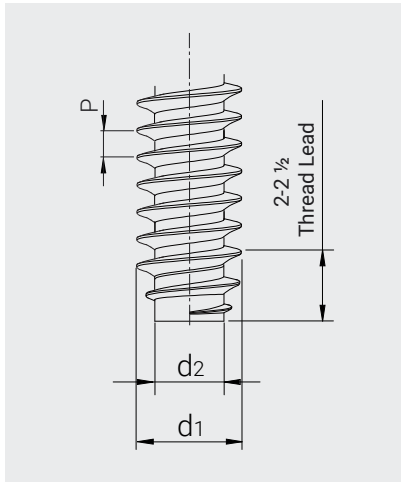


Fig.7. Ensures joint tightness in liquid pumps.

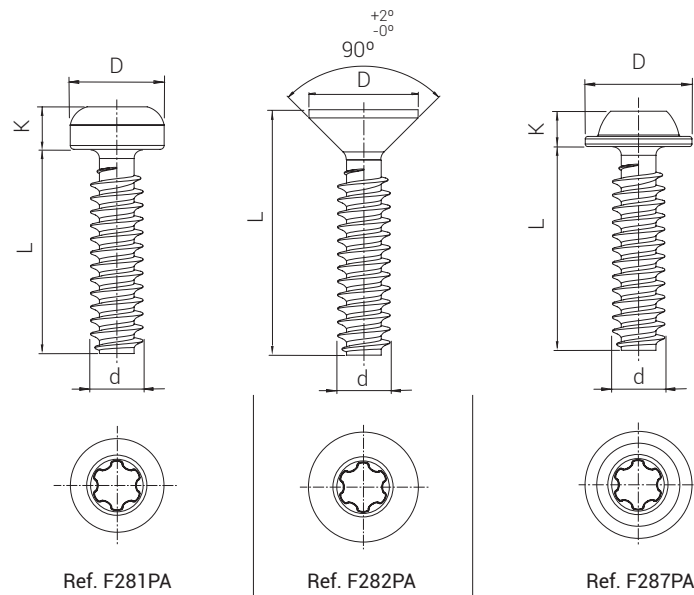


5. Technical data

REMFORM® II F™ screws can be manufactured with different head types, recess, dimensions and coating configuration to fit your exact application requirements. To ensure the quality of the screw we apply baking process to reduce the risk of hydrogen embrittlement (more information in page 124).

The table shows thread and head dimensions under CELO manufacturing standards. For different head design, recess or threaded length, please contact our technical department on celo@celo.com

Nominal Value (mm)	Tolerance	
	h14	h15
To 3	0 -0.25	0 -0.40
Over 3 to 6	0 -0.30	0 -0.48
Over 6 to 10	0 -0.36	0 -0.58
Over 10 to 18	0 -0.43	0 -0.70



d	d1	d2 min.	P	Breaking torque min. (Nm)	D h14	K h14	TORX Plus® AUTOSERT®	D h14	TORX Plus® AUTOSERT®	D h15	K h14	TORX Plus® AUTOSERT®
1.8	1.8 +0.10	1.19	0.55	0.32	3.20	1.50	6 IP			4.20	1.40	6 IP
2.0	2.0 +0.10	1.33	0.60	0.48	3.40	1.60	6 IP	4.00	6 IP	4.30	1.50	6 IP
2.5	2.5 +0.10	1.68	0.70	0.92	4.30	2.10	8 IP	5.00	8 IP	5.30	2.10	8 IP
3.0	3.0 +0.10	2.02	0.80	1.56	5.30	2.30	10 IP	6.00	10 IP	6.30	2.20	10 IP
3.5	3.5 +0.10	2.37	0.95	2.45	6.20	2.60	15 IP	7.00	15 IP	7.30	2.60	15 IP
4.0	4.0 +0.10	2.71	1.05	3.51	7.00	3.10	20 IP	8.00	20 IP	8.30	2.90	20 IP
5.0	5.0 +0.15	3.40	1.25	6.97	9.00	3.60	25 IP	10.00	25 IP	10.50	3.60	25 IP
6.0	6.0 +0.15	4.09	1.40	12.60	10.80	4.20	30 IP	12.00	30 IP	12.50	4.00	30 IP
8.0	8.0 +0.15	5.46	1.75	31.80	14.00	4.80	40 IP			17.00	5.00	40 IP

Dimensions in mm. Unless expressly stated, the values shown are nominal. For tolerances and other data, please contact our technical department.

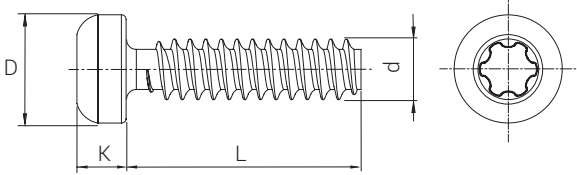
Need to get in touch? Contact us to discuss your application.

Contact us



F281PA

REMPFORM® II F™



- Pan head
- TORX Plus® AUTOSERT® recess
- Zinc plated Cr (III) 8µm + Baking + Sealant (144h NSS)

CAD Files and Samples available

[Go to product](#)

d mm	3.0	3.5	4.0	5.0	6.0
D mm	5.30	6.20	7.00	9.00	10.60
K mm	2.30	2.60	3.10	3.60	4.20
TORX Plus® AUTOSERT®	10 IP	15 IP	20 IP	25 IP	30 IP

L mm	Ø3.0	Ø3.5	Ø4.0	Ø5.0	Ø6.0
6	○	○	○	—	—
7	○	○	○	○	—
8	●	○	○	○	○
10	●	●	●	○	○
12	○	○	●	○	○
16	○	○	○	○	○
18	○	○	○	○	○
20	●	○	○	●	○
25	—	○	○	○	○
30	—	—	○	○	○
35	—	—	○	○	○
40	—	—	○	○	○
50	—	—	—	—	○

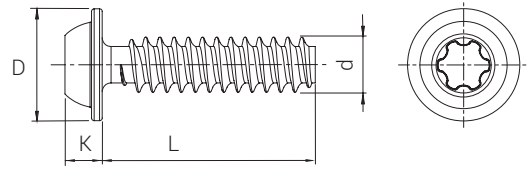
● Product available in stock. ○ Product available upon request.
For other plating, thread dimensions and head design, please contact our sales department. Information about packaging conditions in page 130



F287PA

REMFORM® II F™

- Pan head flange
- TORX Plus® AUTOSERT® recess
- Zinc plated Cr (III) 8µm + Baking + Sealant (144h NSS)



CAD Files and Samples available

[Go to product](#)

d mm	2.0	2.5	3.0	3.5	4.0	5.0	6.0
D mm	4.30	5.30	6.30	7.30	8.30	10.50	12.50
K mm	1.50	2.10	2.20	2.60	2.90	3.60	4.00
TORX Plus® AUTOSERT®	6 IP	8 IP	10 IP	15 IP	20 IP	25 IP	30 IP

L mm	Ø2.0	Ø2.5	Ø3.0	Ø3.5	Ø4.0	Ø5.0	Ø6.0
6	●	○	●	—	—	—	—
8	●	●	●	○	○	—	—
10	●	●	●	●	●	○	—
12	○	○	●	○	○	○	○
13	○	○	○	○	○	○	○
14	○	○	●	○	○	○	○
15	○	○	○	○	○	○	○
16	—	○	○	○	○	○	○
18	—	○	○	○	○	○	○
20	—	○	○	○	○	○	○
22	—	○	○	○	○	○	○
25	—	○	○	○	○	○	○
30	—	—	—	○	○	○	○
35	—	—	—	○	○	○	○
38	—	—	—	○	○	○	○
40	—	—	—	○	○	○	○
50	—	—	—	○	○	○	○

● Product available in stock. ○ Product available upon request.

For other plating, thread dimensions and head design, please contact our sales department. Information about packaging conditions in page 130



Small Things Matter

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