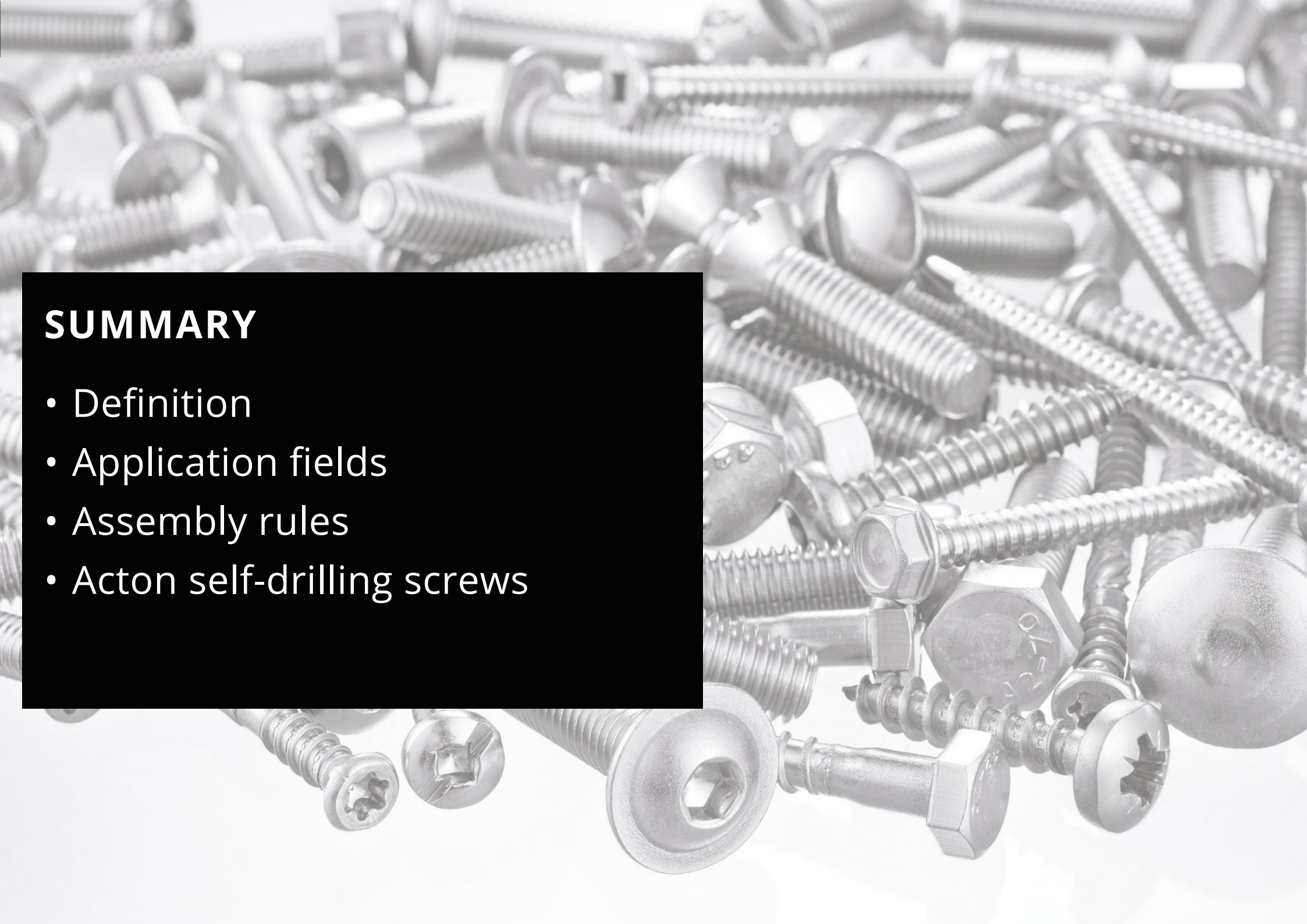
HOW TO CHOOSE THE RIGHT SELF-DRILLING SCREW ?

Technical training



SUMMARY

- Definition
- Application fields
- Assembly rules
- Acton self-drilling screws

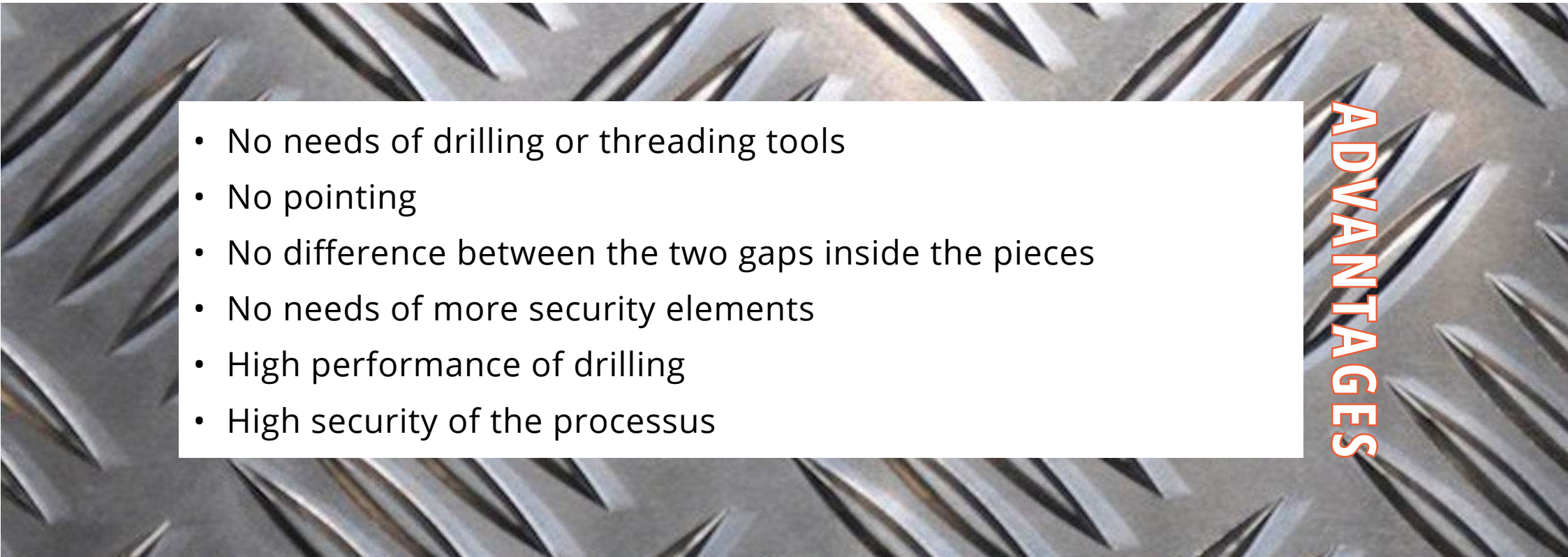
WHAT IS A SELF-DRILLING SCREW ?

The self-drilling screws allows the assembly of sheet metal with a middle thickness and with weak pressure.

A self-drilling screw allows to delete the pointing, drilling and threading operations.

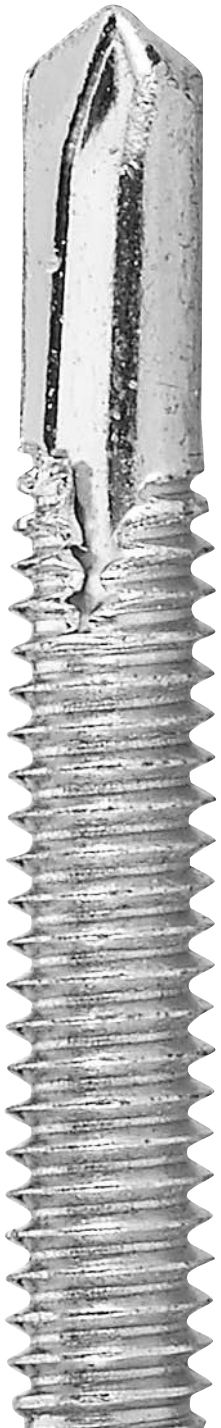
The sheet metal assembly can be done without pre-drilling, so it means an important **gain of time.**

For high pressure (high load, traffic of heavy machines) it is **advised to bolting**.



ADVANTAGES

- No needs of drilling or threading tools
- No pointing
- No difference between the two gaps inside the pieces
- No needs of more security elements
- High performance of drilling
- High security of the processus



- The self-drilling screws are drilling their own gap and are shaping their own threading
- Gain of time and gain of materials estimated at more than 50%
- The self-drilling screws are pushed with electric screwer or with a speed controller.
- The good rotation speed is essential, the advised one is between 1000-2000 t/min & the assembly pressure between 150-200 N.
- When the drilling is made into hard materials, the rotation speed needs to be evaluated by preliminary tests.

BUILDING

Cladding, door frames, windows...

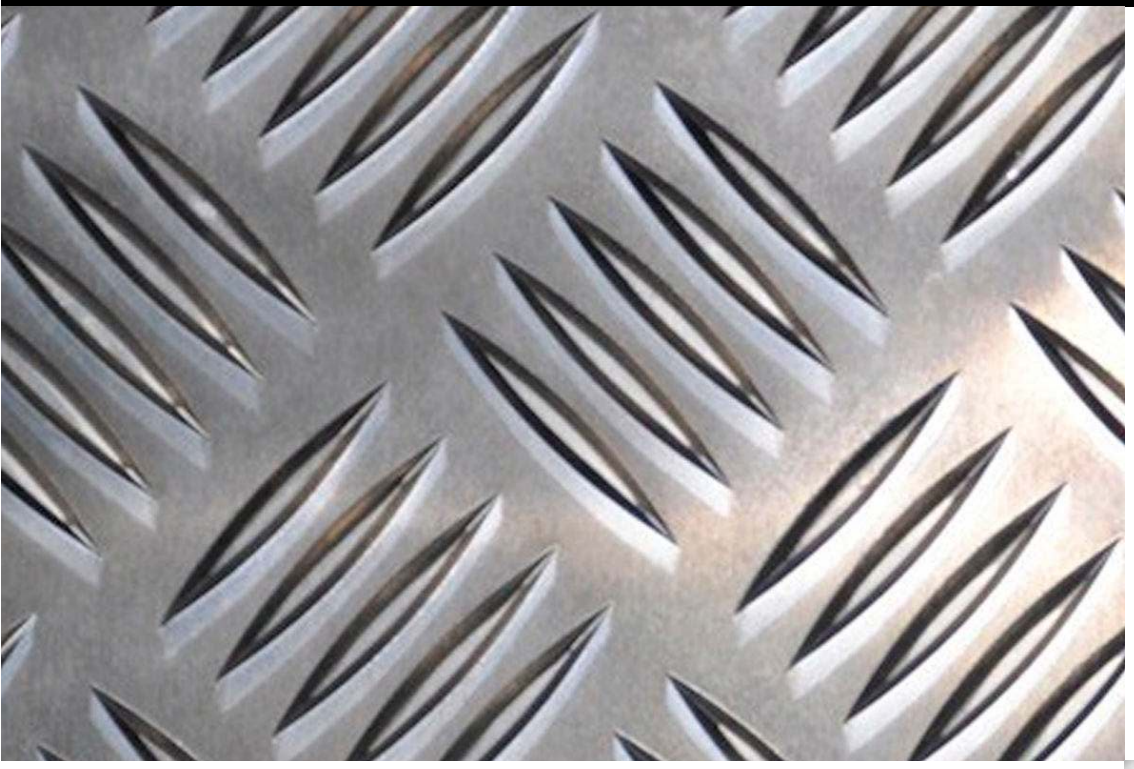
HVAC systems engineering

Heating, ventilation, air conditionning...

SHEET METAL FACTORY
CAR BODY

DIVERSE INDUSTRIES

domestic electrical...



SCREW MATERIAL

Steel sheet or aluminium

- ACIER ZINGUÉ
- BI-MÉTAL (acier/alu)
- AISI 410 (acier/alu)

Aluminium sheet

- INOX A2

TYPE OF IMPRINT

- **PHILLIPS :** standard
- **HEXAGONAL HEAD :** high tightening torque
- **SQUARE :** high tightening torque

\+ good holding to the connector

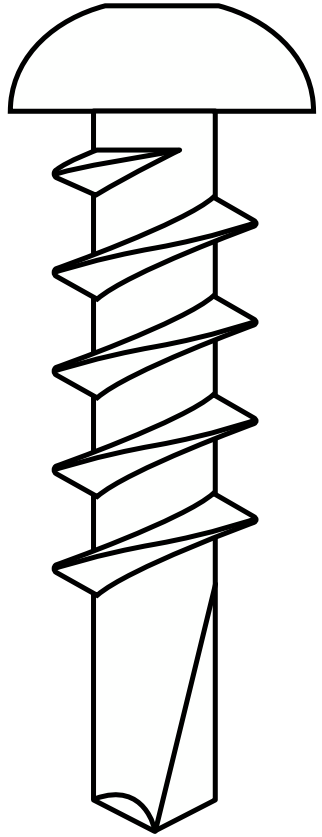
- **6 LOBES :** high tightening torque

\+ very good holding to the connector

VITESSE DE ROTATION ET COUPLE DE SERRAGE

AVAILABLE DIAMETERS	2,9 mm	3,5 mm	3,9 mm	4,2 mm	4,8 mm	5,5 mm	6,3 mm
ROTATION SPEED	1700 à 2500 tr/minute					1200 à 1800 tr/minute	
THICKNESS TO BE DRILLED (mm)	0,7 à 1,9	0,7 à 2,25	0,7 à 2,4	1,75 à 4,4	1,75 à 4,4	1,75 à 5,25	2 à 6
DRILL LENGTH (mm)	2,5	3	3,5	4,5	5	6,5	7,5
CRUCIFORM IMPRINT	PH1	PH2	PH2	PH2	PH2	PH3	PH3
SQUARE IMPRINT		SQ 1	SQ 2	SQ 2	SQ 2	SQ 3	
6 LOBES IMPRINT		TX 10	TX 15	TX 20	TX 25	TX 25	
HEXAGONAL HEAD SW		5,5 mm	5,5 mm	7 mm	8 mm	8 mm	10 mm

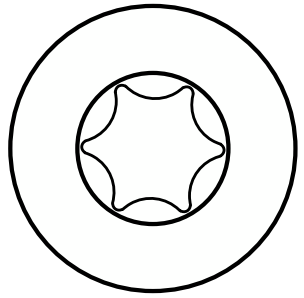
SELF-DRILLING SCREWS / ZINC PLATED STEEL



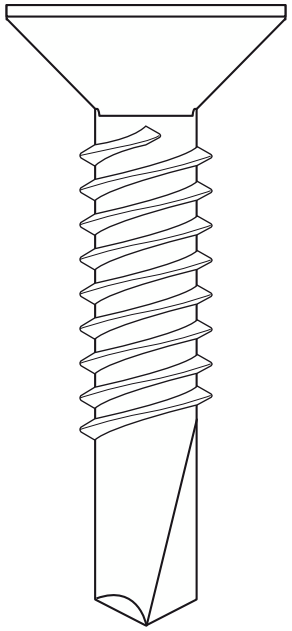
- Strong capacities of drilling: for steel and aluminium sheet
- Low corrosion resistance: needs to be in a non-corrosive and dry atmosphere
- Screw with a good value for money

Warning : the risk of a deferred break (weakening at the hydrogen)

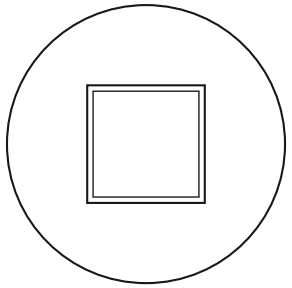
- Phillips, square and 6 lobes (Torx) imprints
- Pan head, countersunk head and hexagon head
- Assembly with an electric screwer (tyre disadvised)



SELF-DRILLING SCREW / STAINLESS STEEL A2

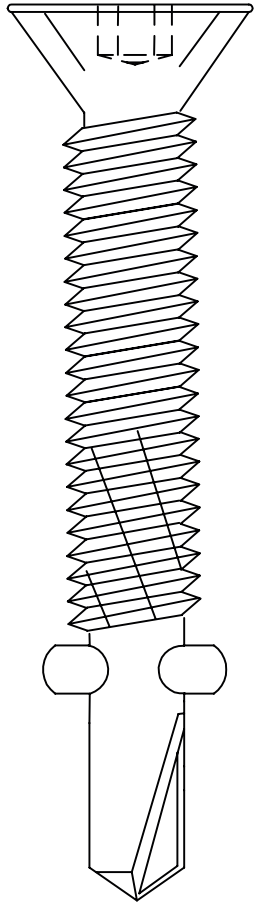


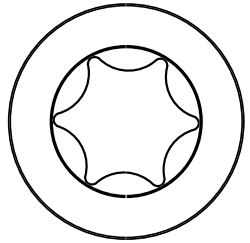
- Moderated capacity of drilling: only for sheet steel
- Good corrosion resistance: faintly-corrosive atmospheres
- Phillips, square and 6 lobes (Torx) imprints
- Pan head, countersunk head and hexagon head
- Assembly with an electric screwer (tyre disadvised)



SELF-DRILLING SCREWS / BI-METAL

- A steel point hardened by heating treatment
- Threads and head in stainless steel A2
- High capacities of drilling : for steel and aluminium sheets
- Good corrosion-resistance
- Protection by Silver Ruspert type coating
- Countersunk or hexagon head
- 6 lobes (Torx) imprint
- Assembly with an electric screwer (tyre disadvised)





Acton

	Pan head	Countersunk head	Hexagon head	Special head
ZINC PLATED STEEL	33201 33361 33342	33301 33351 33343	33401 33431 33331	33371 33372 33341
STAINLESS STEEL A2	62430 62431 62435	62432 62433 62436	62434	
AISI 410	62440 62443	62442	62441	
BI-METAL		62450 62451	62445 62446 62447	62448 62449

The references are linked to www.acton.fr
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