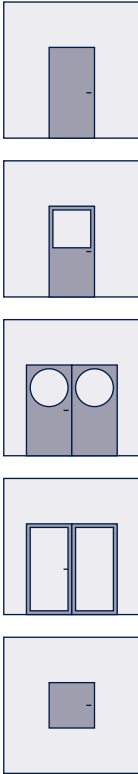







Technical information



Franzen TSN-3 / TSN-4 "System Schröders"

**CE marked fire resistant steel door
EI₂60-S_a-C5 according to EN 16034,
single leaf (TSN-3) and double leaf (TSN-4)**

-  optional with fire-resistant glazing
-  optional in combination as **smoke control door**
S_a / S₂₀₀ acc. to EN 16034
-  optional in combination as **burglar resistance door**
RC1 to RC4 acc. to EN 1627
-  optional in combination as **acoustic performance**
up to R_w (C.C_{tr}) = 53 dB
acc. to EN ISO 10140 / EN ISO 717-1
-  optional in combination with **increased air tightness**
up to classe 4 acc. to EN 12207



Performance characteristics

CE-marked

Fire resistance

EI₂60 tested acc. to EN 1634-1
 as gate acc. to DIN EN 13241-1
 as external door acc. to DIN EN 14351-1

Thermal transmittance

UD-value $\geq 1,5 \text{ W}/(\text{m}^2\text{K})$ acc. to EN ISO 10077-1

Combinable with additional performance characteristics:

Smoke control (optional)

S_a / S_{200} tested acc. to EN 1634-3

Burglar resistance (optional)

RC4, RC3, RC2 RC1,
 acc. to DIN EN 1627 ff

Acoustic performance (optional)

up to RW (C;Ctr) = 53 (-1;-5) dB
 acc. to EN ISO 10140-1 / EN ISO 10140-2 / EN ISO 717

Air tightness (optional)

up to class 4 acc. to EN 12207 (up to 600 Pa)

Resistance to wind load (optional)

up to class C5 (up to 2,000 Pa) acc. to EN 12210

Watertightness (optional)

up to class 8A acc. to EN 12208

Resistance to positive and negative pressure (optional)

up to 5.000 Pa acc. to DIN EN 12211

Behaviour between different climates (optional)

class 2 (d + e) acc. to EN 12219 (deflection)

Ability to release (optional)

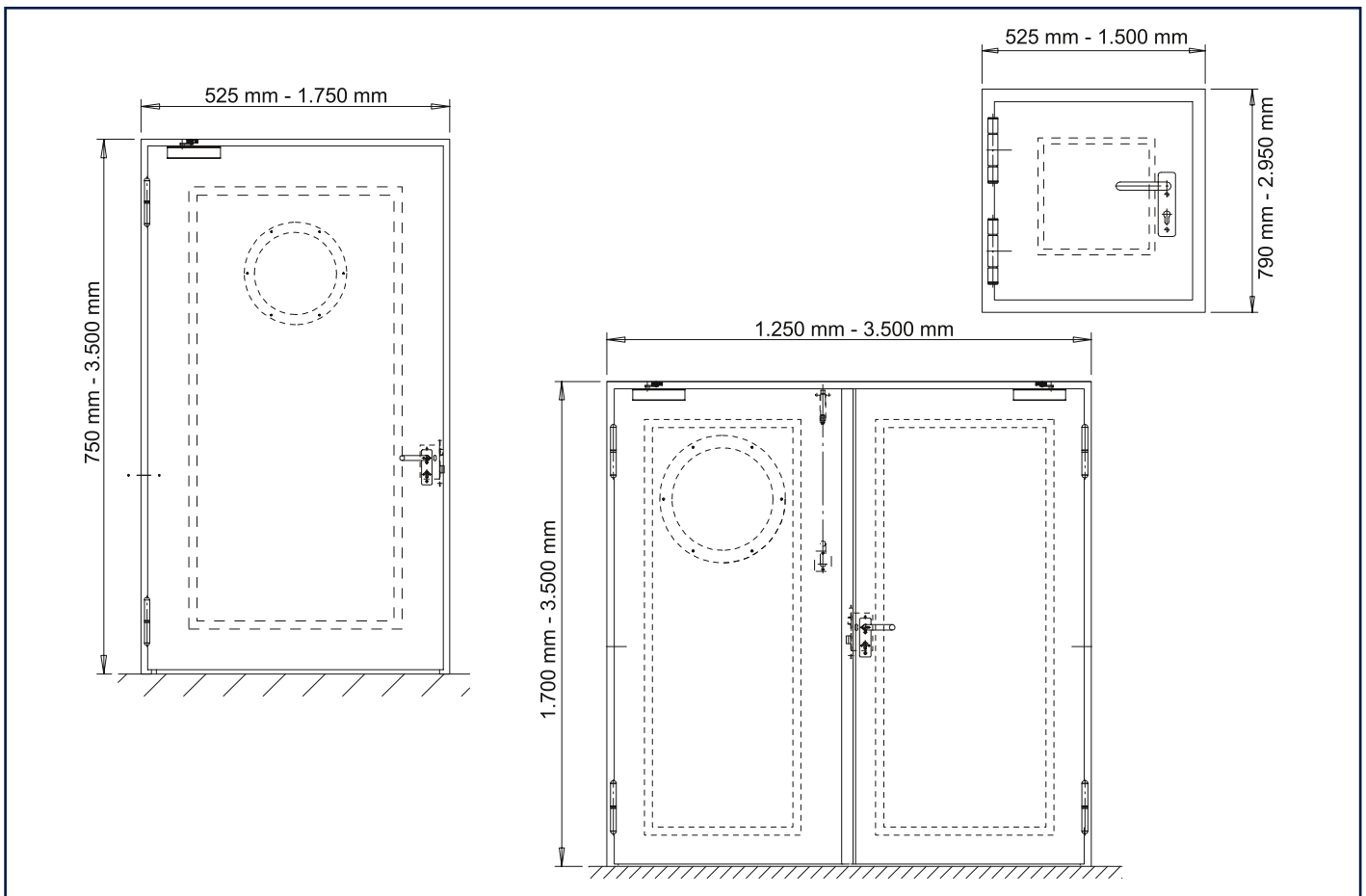
acc. to DIN EN 16034 hold-open device
 acc. to DIN EN 14637
 acc. to DIN EN 14351-1 proven for doors
 in escape and rescue routes

Flush with surface (optional)

flush-mounted design FLAT

Explosion protection (optional)

for installation in potentially explosive areas (ATEX)



Technical data

Dimensions single leaf (rough building dimension)

width	from	525 mm	up to 1,750 mm
height	from	750 mm	up to 3,500 mm

Dimensions double leaf (rough building dimension)

width	from	1,250 mm	up to 3,500 mm
height	from	1,700 mm	up to 3,500 mm

Dimensions flap (rough building dimension)

width	from	525 mm	up to 1,500 mm
height	from	750 mm	up to 2,950 mm

Door leaf

leaf thickness 68 mm to 69 mm - smooth double-walled
 plate thickness 1.0 mm to 1.5 mm
 thin rebate design
 optional thick rebate design
 optional insulation inlet full-face glued and pressed with cover plate, thus particularly plane and smooth door leaf

Frame

framesystem "ZNG" (see installation variants)
 with flush clipped in Thelesol® fire protection strips and elastic rubber seal
 corner frame
 optional enclosing frame
 optional block frame

Floor seal

required for smoke control, acoustic performance, air tightness
 optional lowerable floor seal or sliding seal (patented)

Glas inset (optional)

glass dimensions and -form variable
 (for rectangular glass inset max. 890 mm x 2,150 mm)
 minimum frieze width: 130 mm
 optional with port-hole (ø ca. 450 mm clear view)
 glass inset bars with concealed screw connection (for rectangular glass inset)

Hinges

2/3-part KO door hinges
 with patented easy-running bearings as easy running doors
 optional door hinge with 3D adjustment

Fittings single leaf

optional any approved handle set
 acc. to EN 1906 resp. EN 179
 optional panic bar handle or push bar acc. to EN 1125

Fittings double leaf

active leaf
 optional any approved handle set
 acc. to EN 1906 resp. EN 179
 optional panic bar handle or push bar
 acc. to EN 1125 EN 1125
 for version RC: Protective fitting ES-1 up to ES-3

Locking single leaf

single locking acc. to EN 12209,
 depending on version multi-point locking
 profile cylinder prepared (cylinder on-site)
 securing pins
 optional panic locking acc. to EN 179 resp. EN 1125

Locking double leaf

active leaf
 single locking according to EN 12209,
 depending on version multi-point locking
 profile cylinder prepared (cylinder on-site)
 fixed leaf
 internal snap bolt (locking upwards)
 depending on version, with locking upwards and downwards
 (rebate shoot bolt, shoot bolt lock)
 securing pins at both leaves
 optional panic locking acc. to EN 179 resp. EN 1125

Self-closing single leaf

door closer acc. to DIN EN 1154
 optional spring hinge for smaller doors / flaps

Self-closing double leaf

both leaves with door closer acc. to EN 1154 resp. EN 1155
 mit closing sequence control acc. to EN 1158

Installation

in masonry	(thk ≥ 115 mm)
in concrete	(thk ≥ 100 mm)
in aerated concrete	(thk ≥ 150 mm)
in mounting walls min. F60	(thk ≥ 100 mm)
in encased steel columns min. F60	(thk ≥ 100 mm)

optional blunt installation in soffit
 optional installation on the wall plate

approved for installation at great heights
 (installation not at floor level: height on one or both sides
 > 500 mm above ground level - e.g. as manhole door/flap)
 with lower fire and smoke seal - also thresholdless

Marking

CE-marking for fire doors acc. to EN 16034

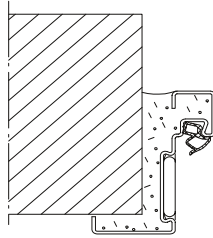
Optional

sock control
 automated opening
 motor locks (also in 3-way locking)
 powder coating in RAL colours
 prison cell doors (special locking and food flap)
 special solutions according to request and customer requirements

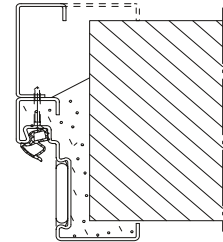
Installation variants

Installation in

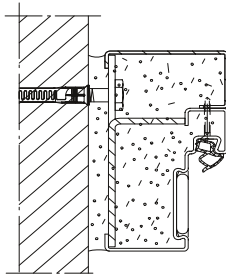
masonry /
concrete



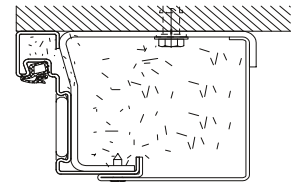
corner frame
corner frame with
supplementary frame



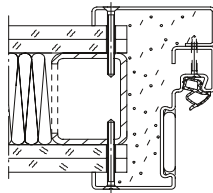
masonry /
concrete



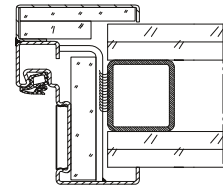
block frame
corner frame with
supplementary frame



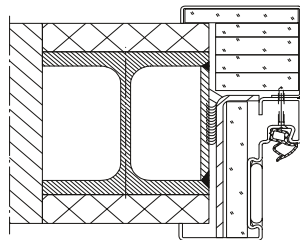
mounting walls



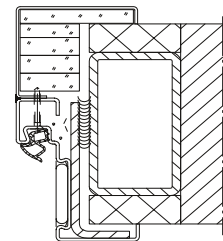
enclosing frame
corner frame with
supplementary frame



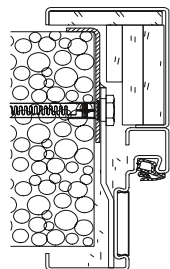
steel columns /
steel supports



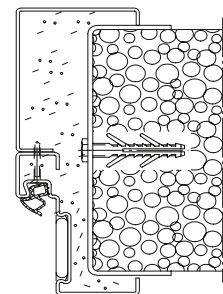
enclosing frame
corner frame with
supplementary frame



aerated concrete



enclosing frame
corner frame with
supplementary frame



FRANZEN
Feuerschutztüren