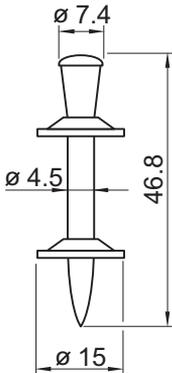


# NPH siding and decking nails to concrete

## Product data

### Dimensions



### General information

#### Material specifications

Carbon steel shank:	HRC 58
Zinc coating:	8–16 µm

#### Recommended fastening tools:

DX 76 PTR	Cartridges:
with DX 76-F-Kwik-PTR	6.8/18M blue, yellow
fastener guide	
DX 76 with X-76-F-Kwik	
fastener guide	

See **Tools and equipment** for more details.

### Approvals

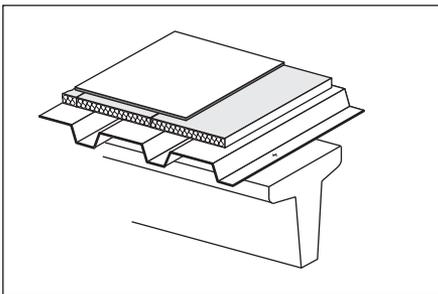
SOCOTEC (France)  
 BUtgb (Belgium)

#### Note:

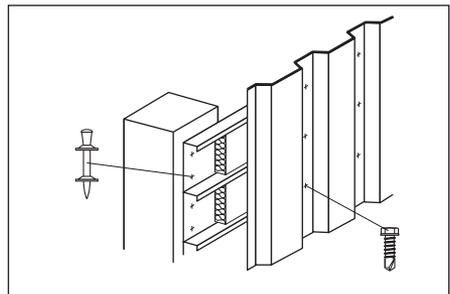
Technical data presented in these approvals and design guidelines reflect specific local conditions and may differ from those published in this handbook.

## Applications

### Examples



Roof decking



Wall liners



## Load data

### Recommended loads

Sheeting thickness $t_f$ [mm] nominal	Trapezoidal profile (symmetric)		Liner trays (asymmetric)	
	$N_{rec}$ [kN]	$V_{rec}$ [kN]	$N_{rec}$ [kN]	$V_{rec}$ [kN]
0.75	1.80	1.20	1.30	1.20
0.88	2.10	1.50	1.50	1.50
1.00	2.40	1.80	1.70	1.80
1.13	2.70	2.20	1.90	2.20
1.25	3.00	2.50	2.10	2.50
1.50	3.00	3.00	2.50	3.00
1.75	3.00	3.00	2.50	3.00
2.00	3.00	3.00	2.50	3.00

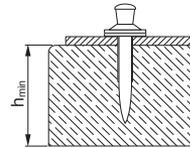
- Recommended working loads valid for steel sheets with a minimum tensile strength of  $\geq 360 \text{ N/mm}^2$ .
- For intermediate sheet thicknesses, use recommended load for next smaller thickness.
- Recommended loads are appropriate for EC 1 (or similar) wind loading designs.
- The safety factor included is at least 2.0 applied to the static 5 % fractile value and 1.3 to the cyclic (5000 cycles) 5 % fractile value.

### Application requirements

#### Thickness of base material

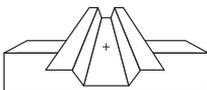
Minimum thickness of concrete member

$h_{min} = 160 \text{ mm}$

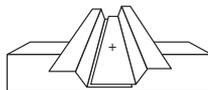


#### Thickness of fastened material

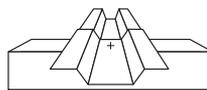
Sheet thicknesses and overlap types



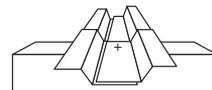
(a)  
single



(b)  
side lap



(c)  
end overlap



(d)  
side lap and end overlap

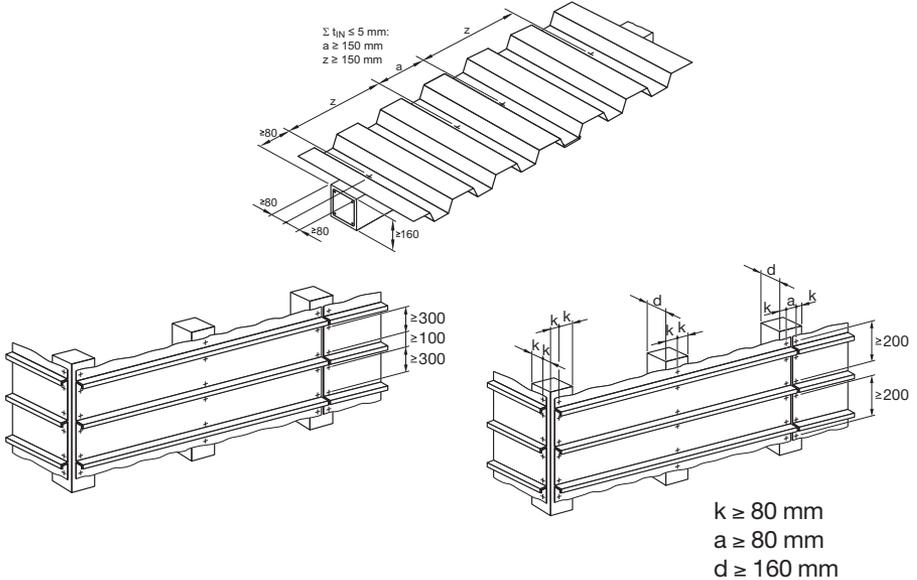
Nominal sheeting thickness $t_f$ [mm]	Allowable overlap types
0.63–1.13	<b>a, b, c, d</b>
> 1.13–2.50	<b>a</b>

- With the above recommended sheet thickness and overlap types, the effects of temperature induced forces of constraint during construction can be neglected.
- These recommendations are valid for sheets up to S350GD.
- With other sheets or overlaps or when unusually large forces of constraint are expected, analyse the structural system to ensure that the shear force acting on the nail does not exceed  $V_{rec}$ .

**Spacing and edge distances (mm)**

Trapezoidal profiles to girders or purlins

Liner trays to columns



**Corrosion information**

The intended use only comprises fastenings which are not directly exposed to external weather conditions or moist atmospheres. For further detailed information on corrosion see relevant chapter in **Direct Fastening Principles and Technique** section.

**Application limits**

**Types of concrete**

- Precast and cast-in-place pre-stressed concrete
- Precast and cast-in-place reinforced concrete

**Concrete design strength**

- Minimum C20/25 ( $f_c = 20 \text{ N/mm}^2$ ,  $f_{cc} = 25 \text{ N/mm}^2$ )
- Maximum C45/55 ( $f_c = 45 \text{ N/mm}^2$ ,  $f_{cc} = 55 \text{ N/mm}^2$ )
- The **NPH/DX-Kwik** system has been successfully used in concrete having an in-place cube strength of  $70 \text{ N/mm}^2$

**Minimum strength/age at time of fastening**

- C20/25 concrete must be 28 days old
- C45/55 concrete must be 15 days old

**Minimum dimensions of concrete member**

- Minimum width = 180 mm
- Minimum thickness = 160 mm

### Fastener selection

Fasteners		Tool	Fastener guide	Piston
Designation	Item no.	Designation	Designation	Designation
NPH2-42 L15	40711	DX 76	X-76-F-Kwik	X-76-P-Kwik
		DX 76 PTR	X-76-F-Kwik-PTR	X-76-P-Kwik-PTR

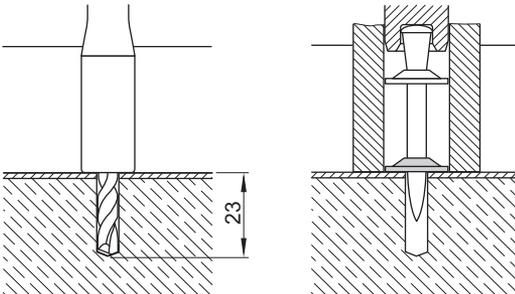
### Cartridge selection and tool energy setting

Cartridges 6.8/18 M blue

Tool energy adjustment by setting tests on site

### Fastening quality assurance

#### Installation

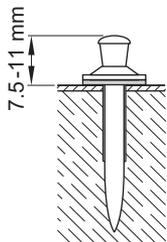


Pre-drill with TX-C-5/23 drill bit  
(Item no.: 00061787)

Place fastener with DX 76 PTR  
or DX 76

### Fastening inspection

#### NPH2-42 L15



Check for conformity with recommendations  
(detailing spacing and edge distances for fastening)

Check the nailhead standoff of completed fastenings

These are abbreviated instructions which may vary by application.

**ALWAYS** review/follow the instructions accompanying the product.