

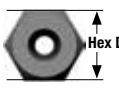
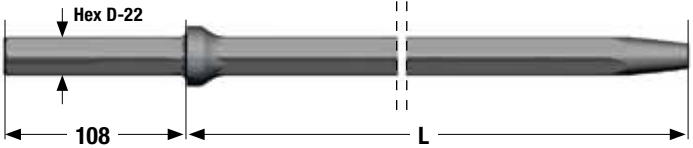
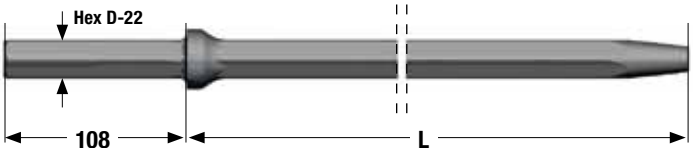
# SMALL HOLE DRILLING

## H22 Tapered tools, 12° taper

Bits	Flushing hole, mm		Buttons, mm		Angle	Dimensions D		Part No.
	Front No Size	Gauge No Size	Front No Size	Gauge No Size		mm	in	
<b>Button bit</b>								
	1x5	1x5	1x7	4x7	35°	28	1 1/8"	7795-6428-B48
	1x5	1x5	1x7	4x7	35°	30	1 3/16"	7795-6430-B48
<b>Button bit</b>								
	2x4	1x4	2x7	5x7	40°	32	1 1/4"	7795-5232-B48
	2x4	1x4	2x7	5x8	40°	35	1 3/8"	7795-5235-B48
	2x4	1x4	2x7	5x9	40°	38	1 1/2"	7795-5238-B48
<b>Button bit</b>								
	2x4	1x4	2x7	5x7	40°	33	1 9/64"	7770-5233-B48
	2x4	1x4	2x7	5x8	35°	35	1 3/8"	7770-5235-B48
<b>Button bit</b>								
	1x4	1x6	2x7	5x7	35°	33	1 9/64"	7770-4433-B48
	1x5	1x5	2x7	5x7	35°	35	1 3/8"	7770-4435-B48
<b>Button bit</b>								
	2x4	1x4	6x7	2x7	40°	33	1 9/64"	7770-5433-B48
<b>Cross bit</b>								
	1x4	2x4	–	–	–	30	1 3/16"	7770-9030-42
	1x6	2x4.5	–	–	–	32	1 1/4"	7770-9032-42
	1x6	2x4.5	–	–	–	35	1 3/8"	7770-9035-42


# SMALL HOLE DRILLING

## H22 Tapered tools, 12° taper

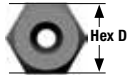
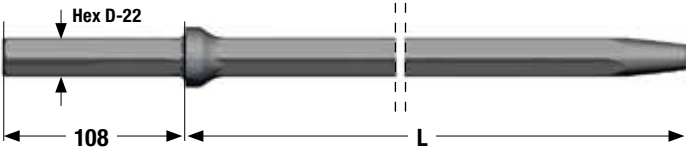
Rods		Dimensions D					Part No.
		L			Hex D		
		mm	ft	in	mm	in	
<b>Tapered rod, shank 22x108, carburized</b>							
		610	2'	–	22	7/8"	7870-6106-11
		1220	4'	–	22	7/8"	7870-6112-11
		1830	6'	–	22	7/8"	7870-6118-11
		2000	6'	7"	22	7/8"	7870-6120-11
		2440	8'	–	22	7/8"	7870-6124-11
		3050	10'	–	22	7/8"	7870-6131-11
		3200	10'	6"	22	7/8"	7870-6132-11
		3660	12'	–	22	7/8"	7870-6137-11
<b>Tapered rod, shank 22x108, HF-hardened - For surface drilling</b>							
		2440	8'	–	22	7/8"	7870-5124-11
		3200	10'	6"	22	7/8"	7870-5132-11
		4000	13'	1 1/2"	22	7/8"	7870-1140-11
		4400	14'	5"	22	7/8"	7870-1144-11
		4800	15'	9"	22	7/8"	7870-1148-11
		5600	18'	4 1/2"	22	7/8"	7870-1156-11
		6400	21'	–	22	7/8"	7870-1164-11
		7200	23'	7 1/2"	22	7/8"	7870-1172-11
		8000	26'	3"	22	7/8"	7870-1180-11
	8800	28'	10 1/2"	22	7/8"	7870-1188-11	

# SMALL HOLE DRILLING

## H22 Tapered tools, 11° taper


Bits	Flushing hole, mm		Buttons, mm		Angle	Dimensions D		Part No.
	Front No Size	Gauge No Size	Front No Size	Gauge No Size		mm	in	
<b>Button bit</b>								
	1x6	1x6	2x8	3x9	40°	38	1 1/2"	7776-1938-B48
	1x6	1x6	2x8	3x9	40°	40	1 37/64"	7776-1940-B48

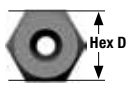

<b>Button bit</b>								
	1x5	1x5	2x7	5x7	40°	32	1 1/4"	7776-4432-B48
	1x5	1x5	2x7	5x8	40°	35	1 3/8"	7776-4435-B48
	1x5	1x5	2x7	5x8	35°	36	1 7/16"	7776-4436-B48
	1x5	1x5	2x7	5x8	35°	38	1 1/2"	7776-4438-B48
	1x6	1x6	2x8	5x9	35°	40	1 37/64"	7776-4440-B48

Rods		Dimensions D					Part No.
		L			Hex D		
Tapered rod, shank 22x108, carburized							
	610	2'	–	22	7/8"	7876-6106-11	
	800	2'	7 1/2"	22	7/8"	7876-6108-11	
	1220	4'	–	22	7/8"	7876-6112-11	
	1600	5'	3"	22	7/8"	7876-6116-11	
	1830	6'	–	22	7/8"	7876-6118-11	
	2000	6'	7"	22	7/8"	7876-6120-11	
	2440	8'	–	22	7/8"	7876-6124-11	
	3050	10'	–	22	7/8"	7876-6131-11	
	3600	11'	9 1/2"	22	7/8"	7876-6136-11	

# SMALL HOLE DRILLING




## H22 Tapered tools, 7° taper

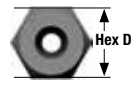
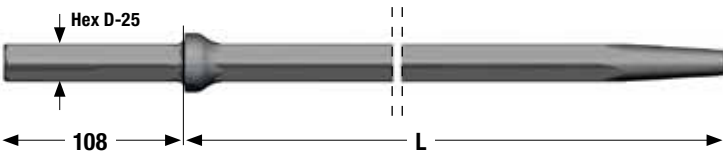
Bits	Flushing hole, mm		Buttons, mm		Angle	Dimensions D		Part No.
	Front No Size	Gauge No Size	Front No Size	Gauge No Size		mm	in	
<b>Button bit</b>								
	2x5	1x5	2x7	5x7	40°	32	1 1/4"	7788-5232-B48
	2x4	1x4	2x7	5x7	40°	33	1 9/64"	7788-5233-B48
	2x4	1x4	2x7	5x8	40°	35	1 3/8"	7788-5235-B48
	2x4	1x4	2x7	5x8	35°	38	1 1/2"	7788-5238-B48

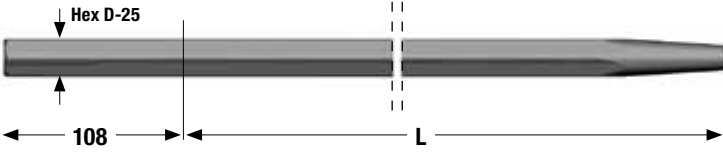
Rods		Dimensions D					Part No.
		L			Hex D		
Tapered rod, shank 22x108, carburized							
	2400	8'	–	22	7/8"	7888-6124-11	
	3200	10'	6"	22	7/8"	7888-6132-11	

# SMALL HOLE DRILLING

## H25 Tapered tools, 7° taper

Bits	Flushing hole, mm		Buttons, mm		Angle	Dimensions D		Part No.
	Front No Size	Gauge No Size	Front No Size	Gauge No Size		mm	in	
<b>Button bit</b>								
	1x5	1x5	2x8	4x9	40	40	1 37/64"	7785-6440-B48
								
	2x5	1x5	2x7	5x7	40	32	1 1/4"	7785-5232-B48
	1x5	1x5	2x8	5x9	40	40	1 37/64"	7785-5240-B48
	1x5	1x5	2x9	5x9	35	43	1 11/16"	7785-5243-B48

Rods		Dimensions D					Part No.					
		L			Hex D							
							mm	ft	in	mm	in	
<b>Tapered rod, shank 25x108, carburized</b>												
	1600	5	3	25	1	7885-7116-31						
	1830	6		25	1	7885-7118-31						
	2210	7	3	25	1	7885-71213-31						
	2440	8		25	1	7885-7124-31						
	3050	10		25	1	7885-7131-31						

<b>Tapered rod, H25, no collar</b>												
	600	2		25	1	7885-7106-38						
	1000	3	3	25	1	7885-7110-38						
	1400			25	1	7885-7114-38						
	1800	6		25	1	7885-7118-38						
	2200	7	2	25	1	7885-7122-38						
	2600	8	6	25	1	7885-7126-38						
3000	10		25	1	7885-7130-38							



# INFORMATION

## Grinding of Hardmetal – Health and Safety Information

### Material Composition

Hardmetal products contain tungsten carbide and cobalt.

### Routes of exposure

Grinding or heating hardmetal blanks or hardmetal products will produce dusts or fumes with dangerous ingredients that can be inhaled, swallowed or come in contact with the skin or eyes.

### Acute toxicity

The dust is toxic by inhalation. Inhalation may cause irritation and inflammation in the airways. Skin contact can cause irritation and rash. Sensitized persons may experience an allergic reaction.

### Chronic toxicity

Repeated inhalation of aerosols containing cobalt may cause obstruction in the airways. Prolonged inhalation of increased concentrations may cause lung fibrosis or lung cancer. Epidemiological studies indicate that workers exposed in the past to high concentrations of tungsten carbide/cobalt carried an increased risk of developing lung cancer.

Cobalt and nickel are potent skin sensitizers. Repeated or prolonged contact can cause sensitization.

### Classification

- Following hazard classification according to GHS/CLP applies to the hardmetal powder ( $2.5\% \leq \text{Co} < 25\%$ ):
- Acute Inhalation 3, H331: Toxic if inhaled
- Carc. Cat. 2, H351: Suspected of causing cancer by inhalation
- Repr. 2, H361; Suspected of damaging fertility.
- STOT RE 1, H372: Causes damage to lungs through prolonged or repeated exposure by inhalation
- Resp. Sens. 1B, H334 : May cause allergy or asthma symptoms or breathing difficulties if inhaled
- Skin Sens.1, H317: May cause an allergic skin reaction
- Eye Irrit. 2, H319: Causes serious eye irritation
- Aquatic Acute 1, H400: Very toxic to aquatic life
- Aquatic Chronic 2, H411: Toxic to aquatic life with long lasting effects

### Precautionary Statements

- Do not breathe dust
- Wear protective gloves/protective clothing/eye protection.
- Use personal protective equipment as required. In case of inadequate ventilation wear respiratory protection
- Avoid release to the environment
- IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
- If skin irritation or rash occurs: Get medical advice/attention