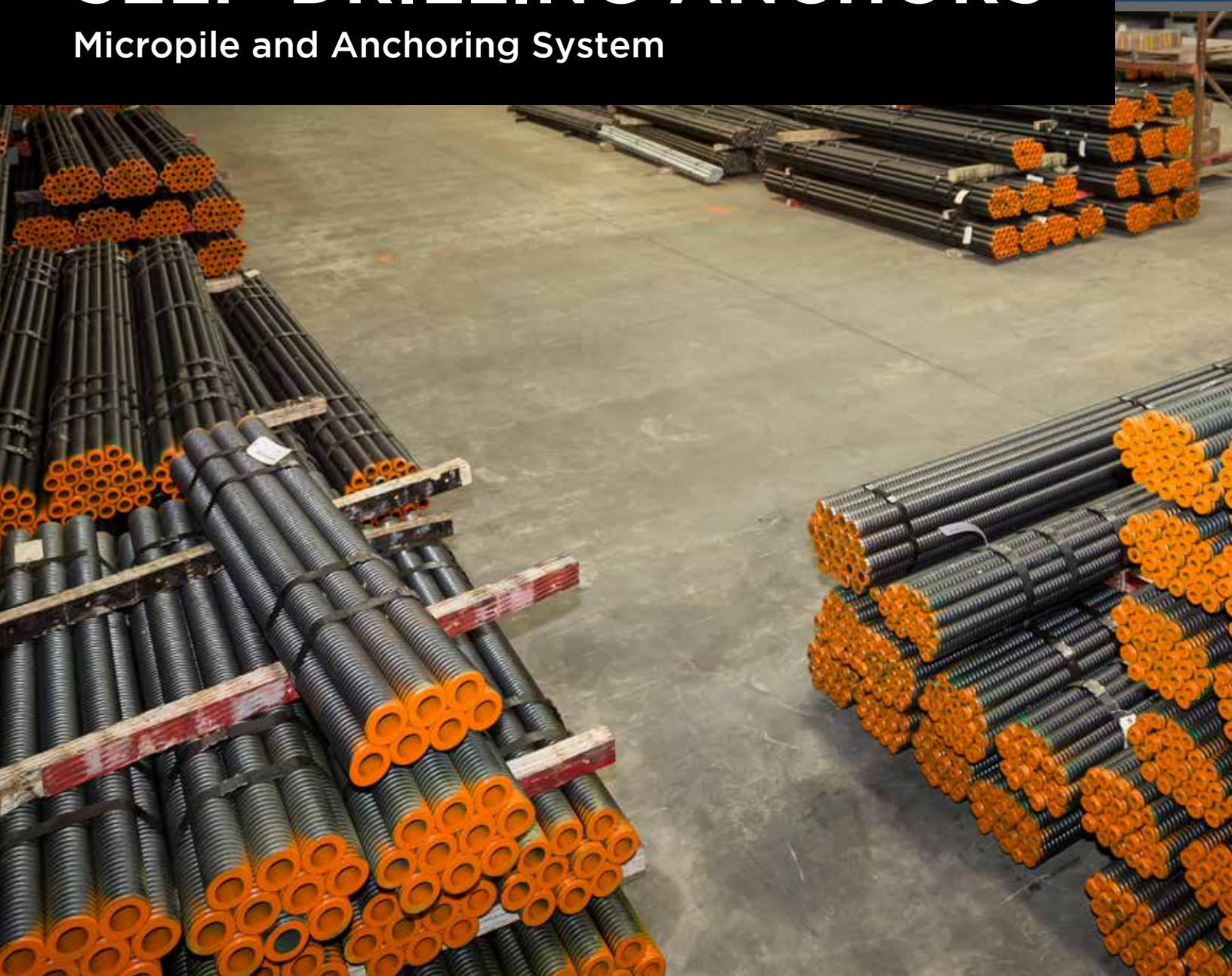


MAGNACORE SELF-DRILLING ANCHORS

Micropile and Anchoring System



MAGNACORE SELF-DRILLING ANCHORS

The Magnacore Self Drilling Anchor (SDA) from Intech is a hollow bar injection-bore micropile and anchor that serves as an economical solution for challenging soil conditions where installing conventional micropiles may not be the best option. For example, those with collapsible soils (those not conducive to open-hole drilling), large boulders, or other obstructions.

The micropile is formed in a single, top-down operation by the injection of a high-pressure, neat cement grout mixture that is pumped through the bar, which also serves as the drill string. The grout mix flows under pressure, through the hollow bar, and exists at the bottom through the open ports in the sacrificial drill bit. As the grout exits the bit, the neat cement permeates the adjacent soils, forming a competent, reinforced grout column

SOLID BAR VS. MAGNACORE HOLLOW BAR

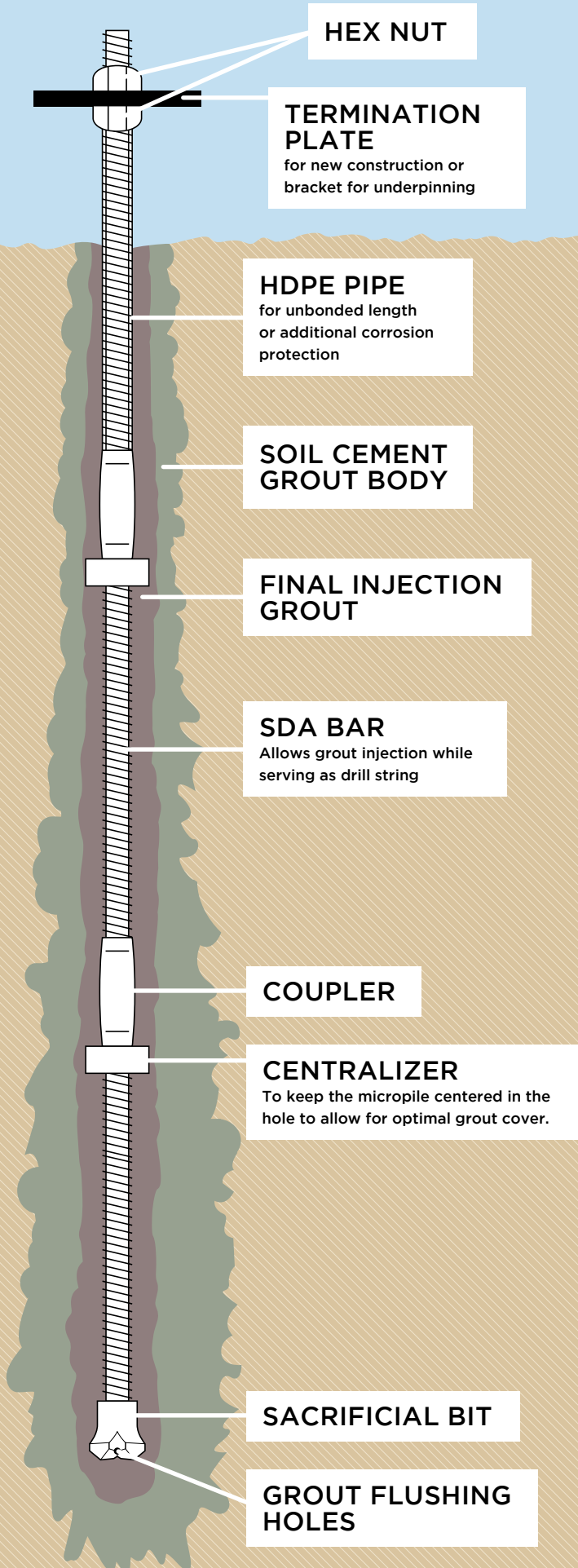


Predrilling required
 Limited to shallow rock
 Very stiff throughout soil strata
 Casing needed in soft soils
 Pre/Post grouting required
 Multiple equipment required at each pile/anchor location

No predrilling
 Rock at any depth
 Can be installed in all soil types
 Casing for lateral loads
 Grout and bar are installed simultaneously
 Only need rock drill & grout plant

MAGNACORE BAR TYPES & SPECIFICATIONS

Bar Type	R32S	R38N	R51N	T40/20	T40/16	T52/26	T76S	Unit
Outer Diameter	1.26	1.50	2.01	1.57	1.57	2.05	2.99	in
Inner Diameter	0.59	0.71	1.18	0.79	0.63	1.02	1.77	in
Area	0.79	1.17	1.78	1.22	1.42	1.92	3.90	in ²
Ultimate Tensile Load (Pu)	80.93	123.60	179.80	121.17	148.40	208.80	427.10	kip
Yield Load (Py)	62.90	101.20	141.60	96.66	118.00	164.10	337.20	kip
Ultimate Tensile Stress (Fu)	102.27	105.93	101.01	98.96	104.17	108.83	109.60	ksi
Yield Stress (Fy)	79.55	86.67	79.55	78.95	82.86	85.52	86.53	ksi
Weight	2.69	3.97	6.06	4.17	4.85	6.53	13.26	lb/ft



APPLICATIONS

- New construction
- Underpinning
- Settlement/stabilization
- Earth retention
- Slope stabilization
- Tunneling

BENEFITS

- Difficult soil conditions
- Fast installation rate
- Limited access
- Permeation of surrounding soils
- No casing required
- Extra corrosion protection
- Decreased labor & material cost
- Single pass installation; only set up equipment once at each location

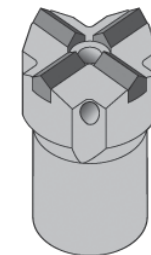
SACRIFICIAL BITS

The holes in each bit allow the grout/drilling solution to flow as the SDA is advanced, simultaneously creating the column.



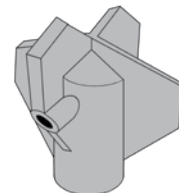
TUNGSTEN CARBIDE BUTTON BIT

For hard rock (Limestone, shale).



TUNGSTEN CARBIDE CROSS CUT BIT

For softer rock (sandstone, soft shale, or fractured rock).



CLAY BIT

Ideal for mixed fills and clay.

R32S

Anchor Rods

Catalog Number	O.D. (in)	I.D. (in)	Area (in ²)	Ultimate Load, P _u (kip)	Yield Load, P _y (kip)	Ultimate Stress, F _u (ksi)	Yield Stress, F _y (ksi)	Weight (lbs/ft)
MCR32S15	1.26	0.59	0.79	80.93	62.90	102.27	79.55	2.69

Anchor Couplers with Gasket Seal

Catalog Number	O.D. (in)	Length (in)	Weight (lbs)
MCR32SCOUPLER	1.65	7.48	1.98

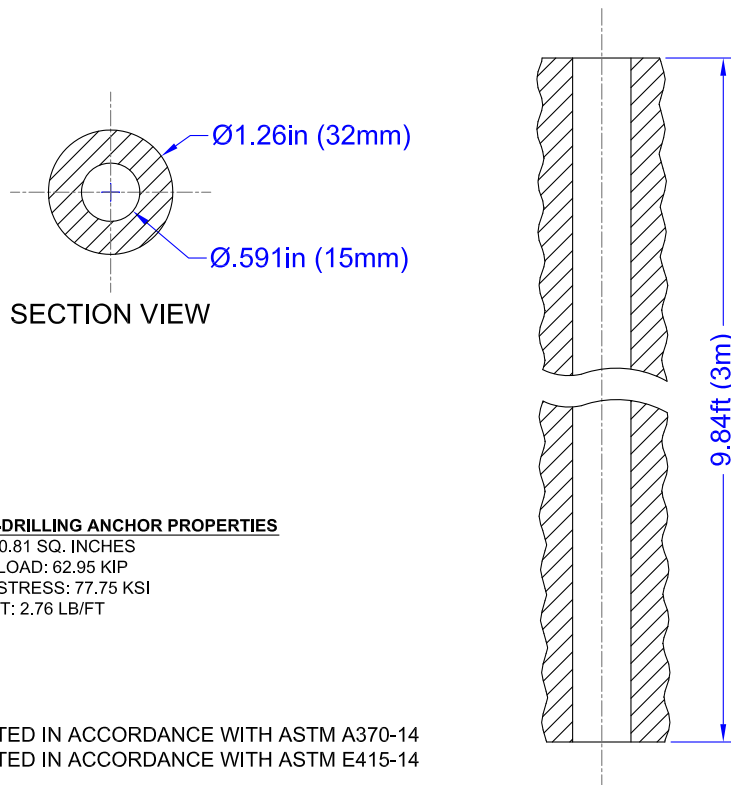
Anchor Nuts

Catalog Number	Width (in) <small>Across the Flats</small>	Length (in)	Weight (lbs)
MCR32HEXNUT	1.81	2.56	1.0

Sacrificial Bits

Catalog Number	O.D. (in)	Description	Weight (lbs)
MCR32-51ESS	2	Carbide Button Bit, Type ESS	1.54
MCR32-51EXX	2	Carbide Cross Cut Bit, Type EXX	1.32
MCR32-76ESS	3	Carbide Button Bit, Type ESS	3.53
MCR32-76EXX	3	Carbide Cross Cut Bit, Type EXX	2.87

As an option, Magnacore hollow bar, couplers, hex nuts, are available with Hot Dipped Galvanized corrosion protection.



Anchor Rods

Catalog Number	O.D. (in)	I.D. (in)	Area (in ²)	Ultimate Load, P _u (kip)	Yield Load, P _y (kip)	Ultimate Stress, F _u (ksi)	Yield Stress, F _y (ksi)	Weight (lbs/ft)
MCR38N19	1.50	0.71	1.17	123.60	101.20	105.93	86.67	3.97

Anchor Couplers with Gasket Seal

Catalog Number	O.D. (in)	Length (in)	Weight (lbs)
MCR38COUPLER	2.00	8.66	3.75

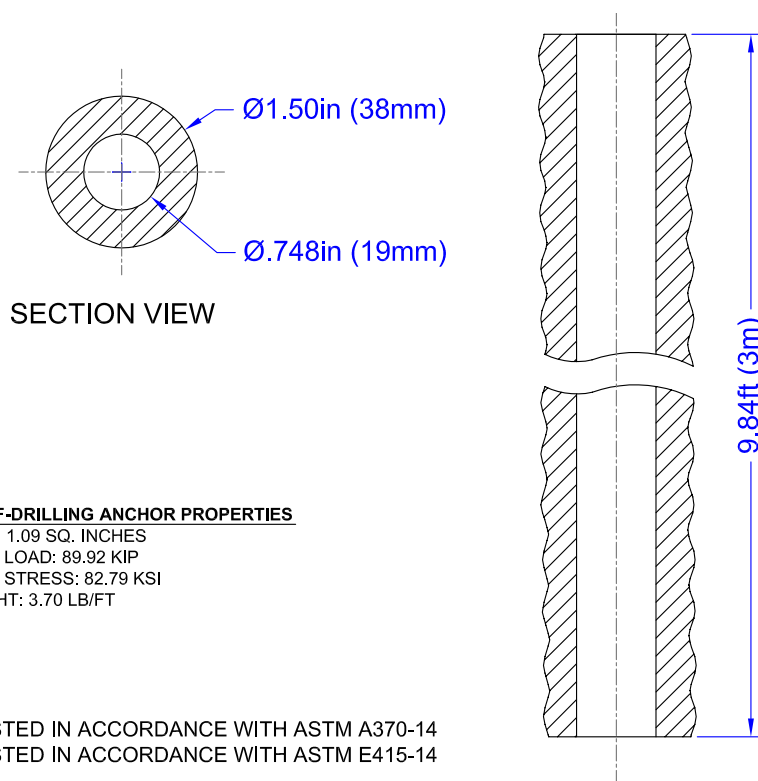
Anchor Nuts

Catalog Number	Width (in) Across the Flats	Length (in)	Weight (lbs)
MCR38HEXNUT	1.97	2.36	1.10

Sacrificial Bits

Catalog Number	O.D. (in)	Description	Weight (lbs)
MCR38-90ESS	3.5	Carbide Button Bit, Type ESS	5.95
MCR38-90EXX	3.5	Carbide Cross Cut Bit, Type EXX	4.63
MCR38-100ESS	3.94	Carbide Button Bit, Type ESS	6.39
MCR38-100EXX	3.94	Carbide Cross Cut Bit, Type EXX	5.73
MCR38-115ESS	4.53	Carbide Button Bit, Type ESS	7.94
MCR38-115EXX	4.53	Carbide Cross Cut Bit, Type EXX	7.72

As an option, Magnacore hollow bar, couplers, hex nuts, are available with Hot Dipped Galvanized corrosion protection.



R51N

Anchor Rods

Catalog Number	O.D. (in)	I.D. (in)	Area (in ²)	Ultimate Load, P _u (kip)	Yield Load, P _y (kip)	Ultimate Stress, F _u (ksi)	Yield Stress, F _y (ksi)	Weight (lbs/ft)
MCR51N30	2.01	1.18	1.78	179.80	141.60	101.01	79.55	6.06

Anchor Couplers with Gasket Seal

Catalog Number	O.D. (in)	Length (in)	Weight (lbs)
MCR51NCOUPLER	2.48	7.87	4.40

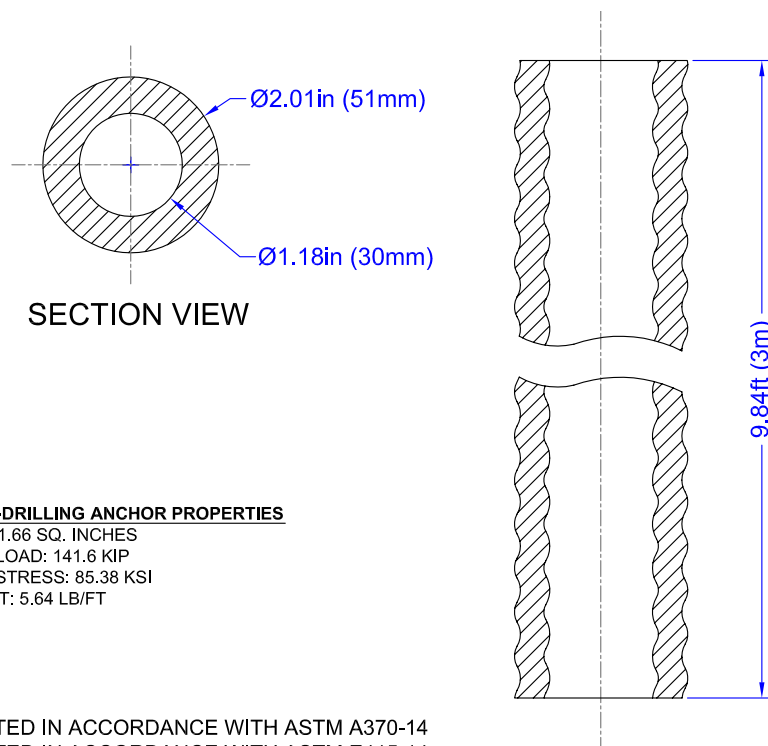
Anchor Nuts

Catalog Number	Width (in) Across the Flats	Length (in)	Weight (lbs)
MCR51HEXNUT	2.95	2.76	3.42

Sacrificial Bits

Catalog Number	O.D. (in)	Description	Weight (lbs)
MCR51-115ESS	4.53	Carbide Button Bit, Type ESS	8.16
MCR51-115EXX	4.53	Carbide Cross Cut Bit, Type EXX	8.16
MCR51-130ESS	5.12	Carbide Button Bit, Type ESS	14.99
MCR51-130EXX	5.12	Carbide Cross Cut Bit, Type EXX	9.26

As an option, Magnacore hollow bar, couplers, hex nuts, are available with Hot Dipped Galvanized corrosion protection.



Anchor Rods

Catalog Number	O.D. (in)	I.D. (in)	Area (in ²)	Ultimate Load, P _u (kip)	Yield Load, P _y (kip)	Ultimate Stress, F _u (ksi)	Yield Stress, F _y (ksi)	Weight (lbs/ft)
MCT40/16	1.57	0.63	1.42	148.40	118.00	104.17	82.86	4.85
MCT40/20	1.57	0.79	1.22	121.17	96.66	98.96	78.95	4.17

Anchor Couplers with Gasket Seal

Catalog Number	O.D. (in)	Length (in)	Weight (lbs)
MCT40COUPLER	2.24	5.51	2.66

Anchor Nuts (Spherical)

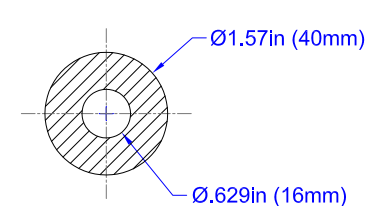
Catalog Number	Width (in) Across the Flats	Length (in)	Weight (lbs)
MCT40HEXNUT	2.56	3.15	2.87

Sacrificial Bits

Catalog Number	O.D. (in)	Description	Weight (lbs)
MCT40-90ESS	3.5	Carbide Button Bit, Type ESS	6.17
MCT40-90EXX	3.5	Carbide Cross Cut Bit, Type EXX	4.85
MCT40-115ESS	4.53	Carbide Button Bit, Type ESS	8.16
MCT40-115EXX	4.53	Carbide Cross Cut Bit, Type EXX	7.94

As an option, Magnacore hollow bar, couplers, hex nuts, are available with Hot Dipped Galvanized corrosion protection.

T40/16



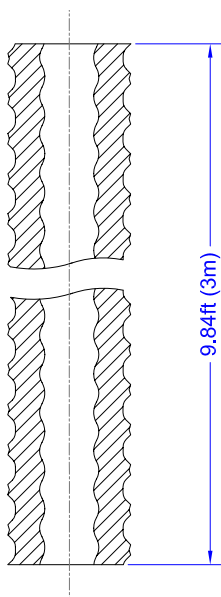
SECTION VIEW

T40/16 SELF-DRILLING ANCHOR PROPERTIES

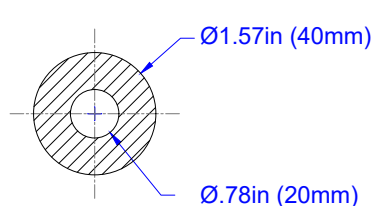
- AREA: 1.40 SQ. INCHES
- YIELD LOAD: 118.02 KIP
- YIELD STRESS: 84.18 KSI
- WEIGHT: 4.77 LB/FT

NOTES:

- TESTED IN ACCORDANCE WITH ASTM A370-14
- TESTED IN ACCORDANCE WITH ASTM E415-14



T40/20



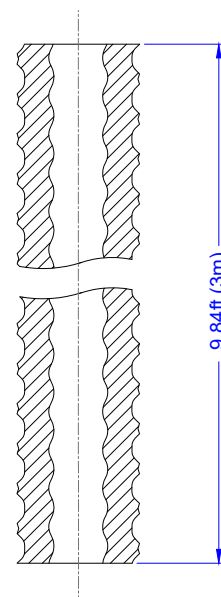
SECTION VIEW

T40/20 SELF-DRILLING ANCHOR PROPERTIES

- AREA: 1.42 SQ. INCHES
- YIELD LOAD: 96.66 KIP
- YIELD STRESS: 78.95 KSI
- WEIGHT: 4.17 LB/FT

NOTES:

- TESTED IN ACCORDANCE WITH ASTM A370-14
- TESTED IN ACCORDANCE WITH ASTM E415-14



T52

Anchor Rods

Catalog Number	O.D. (in)	I.D. (in)	Area (in ²)	Ultimate Load, P _u (kip)	Yield Load, P _y (kip)	Ultimate Stress, F _u (ksi)	Yield Stress, F _y (ksi)	Weight (lbs/ft)
MCT52/26	2.05	1.02	1.92	208.80	164.10	108.83	85.52	6.53

Anchor Couplers with Gasket Seal

Catalog Number	O.D. (in)	Length (in)	Weight (lbs)
MCT52COUPLER	2.76	6.30	5.29

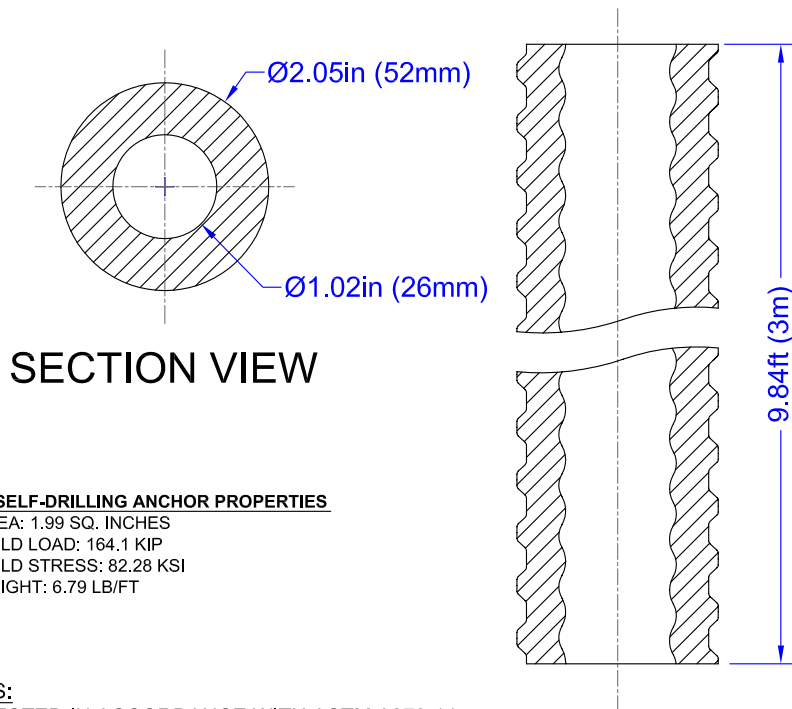
Anchor Nuts (Domed)

Catalog Number	Width (in) Across the Flats	Length (in)	Weight (lbs)
MCT52HEXNUT	3.15	2.95	4.85

Sacrificial Bits

Catalog Number	O.D. (in)	Description	Weight (lbs)
MCT52-115ESS	4.53	Carbide Button Bit, Type ESS	8.38
MCT52-115EXX	4.53	Carbide Cross Cut Bit, Type EXX	8.38
MCT52-130ESS	5.12	Carbide Button Bit, Type ESS	15.43
MCT52-130EXX	5.12	Carbide Cross Cut Bit, Type EXX	9.48

As an option, Magnacore hollow bar, couplers, hex nuts, are available with Hot Dipped Galvanized corrosion protection.



NOTES:

- TESTED IN ACCORDANCE WITH ASTM A370-14
- TESTED IN ACCORDANCE WITH ASTM E415-14

Anchor Rods

Catalog Number	O.D. (in)	I.D. (in)	Area (in ²)	Ultimate Load, P _u (kip)	Yield Load, P _y (kip)	Ultimate Stress, F _u (ksi)	Yield Stress, F _y (ksi)	Weight (lbs/ft)
MCT76S45	2.99	1.77	3.90	427.10	337.20	109.60	86.53	13.26

Anchor Couplers with Gasket Seal

Catalog Number	O.D. (in)	Length (in)	Weight (lbs)
MCT76COUPLER	3.74	8.66	10.36

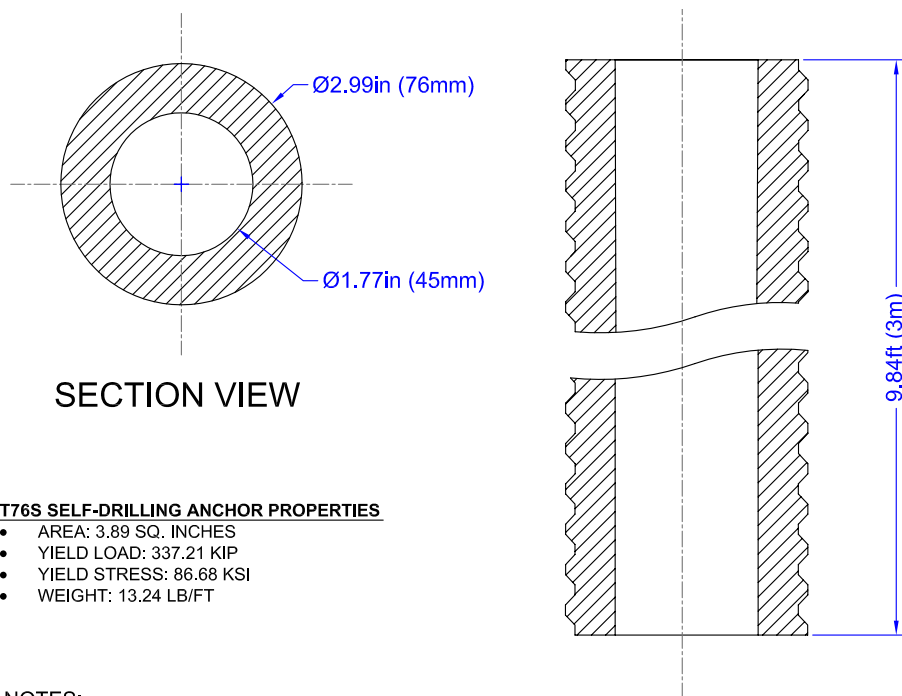
Anchor Nuts

Catalog Number	Width (in) <small>Across the Flats</small>	Length (in)	Weight (lbs)
MCT76HEXNUT	3.94	3.15	6.17

Sacrificial Bits

Catalog Number	O.D. (in)	Description	Weight (lbs)
MCT76-130ESS	5.12	Carbide Button Bit, Type ESS	15.43
MCT76-130EXX	5.12	Carbide Cross Cut Bit, Type EXX	9.48
MCT76-150ESS	5.91	Carbide Button Bit, Type ESS	17.64
MCT76-150EXX	5.91	Carbide Cross Cut Bit, Type EXX	14.77
MCT76-175ESS	6.89	Carbide Button Bit, Type ESS	18.96
MCT76-175EXX	6.89	Carbide Cross Cut Bit, Type EXX	16.09
MCT76-200ESS	7.87	Carbide Button Bit, Type ESS	24.25
MCT76-200EXX	7.87	Carbide Cross Cut Bit, Type EXX	20.94

As an option, Magnacore hollow bar, couplers, hex nuts, are available with Hot Dipped Galvanized corrosion protection.



NOTES:

- TESTED IN ACCORDANCE WITH ASTM A370-14
- TESTED IN ACCORDANCE WITH ASTM E415-14

BEARING PLATES

R32

Catalog Number	Description	Allowable Capacity (kips)	Weight (lbs)
PLT8x8x3/4	8"x8"x3/4" Bearing Plate for R32 Bar, Plain Finish	36	14
PLT8x8x1	8"x8"x1" Bearing Plate for R32 Bar, Plain Finish	70	18

R38

PLT8x8x3/4	8"x8"x3/4" Bearing Plate for R38 Bar, Plain Finish	37	14
PLT8x8x1	8"x8"x1" Bearing Plate for R38 Bar, Plain Finish	66	18
PLT8x8x1.25	8"x8"x1.25" Bearing Plate for R38 Bar, Plain Finish	87	22

T40

PLT8x8x3/4	8"x8"x3/4" Bearing Plate for T40 Bar, Plain Finish	37	14
PLT8x8x1	8"x8"x1" Bearing Plate for T40 Bar, Plain Finish	66	18
PLT8x8x1.25	8"x8"x1.25" Bearing Plate for T40 Bar, Plain Finish	87	22

R51

PLT8x8x3/4	8"x8"x3/4" Bearing Plate for R51 Bar, Plain Finish	48	13
PLT8x8x1	8"x8"x1" Bearing Plate for R51 Bar, Plain Finish	87	18
PLT9x9x1.25	9"x9"x1.25" Bearing Plate for R51 Bar, Plain Finish	110	28

T52

PLT8x8x3/4	8"x8"x3/4" Bearing Plate for T52 Bar, Plain Finish	48	13
PLT8x8x1	8"x8"x1" Bearing Plate for T52 Bar, Plain Finish	87	18
PLT8x8x1.25	8"x8"x1.25" Bearing Plate for T52 Bar, Plain Finish	110	28

T76

PLT9x9x3/4	9"x9"x3/4" Bearing Plate for T76 Bar, Plain Finish	57	16
PLT9x9x1	9"x9"x1" Bearing Plate for T76 Bar, Plain Finish	102	21
PLT10x10x1.25	10"x10"x1.25" Bearing Plate for T76 Bar, Plain Finish	135	33

As an option, Magnacore hollow bar, couplers, hex nuts, are available with Hot Dipped Galvanized corrosion protection.

*Other bearing plate sizes available upon request

*Capacities assume a minimum 4000psi concrete embedment

*For Underpinning Applications - See Atlas Resistance Pier Section for Bracket Options

MAGNACORE EQUIPMENT

FEED SYSTEMS

Man Portable System

The MP man-portable drill from TEI is the smallest drill possible using a feed system. Anything smaller would be a hand drill. These drills are used in the most confined spaces imaginable. Small, but still capable of installing a 75 kip micropile, soil nails, rock bolts, coring, or hollow bars.



SYSTEM COMPONENTS

Catalog

MP260 Feed (Man Portable)	AHB-MANPORT
TE260HT Drifter	
DM360 Power Pack	

Skid Steer Mounted System

The PCF6 skid steer attachment from TEI can be utilized to install various size micropiles in locations where overhead limitations prevent the use of a full size excavator. The shorter mast system coupled with a high flow skid steer provide access to hard to reach locations with the ability of hammering in deep rock sockets and high capacity micropiles.



SYSTEM COMPONENTS

Catalog

PCF6 Feed System	
TEI Drifter OPTIONS	
TE560	AHB-DRILLA10ft
TE360	AHB-DRILLB10ft
Universal Skid Steer Attachment Plate	

Excavator Mounted System

The HEM (Hydraulic Excavator Mount) is the most popular drilling attachment manufactured by TEI Rock Drills. The stable excavator base with long boom combine to form an excellent drilling platform. The HEM receives hydraulic power from the excavator's Auxiliary Hydraulic circuit.



SYSTEM COMPONENTS

Catalog

HEM Feed System	
TEI Drifter OPTIONS	
TE560	AHB-DRILLB16ft
TE360	AHB-DRILLD16ft
Excavator Adapter	
CAT 313 and 314	
CAT 320 and 321	
Doosan DX180, DX190, DX210, DX225, DX 235, and DX255	

ROCK DRILLS



TE260HT Drifter
R32, R38, T40



TE360 Drifter
R32, R38, T40



TE560 Drifter
R32, R38, T40, R51, T52, T76

GROUT PLANTS



Diesel Colloidal Grout Plants
CG680
Rent or Purchase

INTECH[®]

ANCHORING
SYSTEMS

