

Session 4

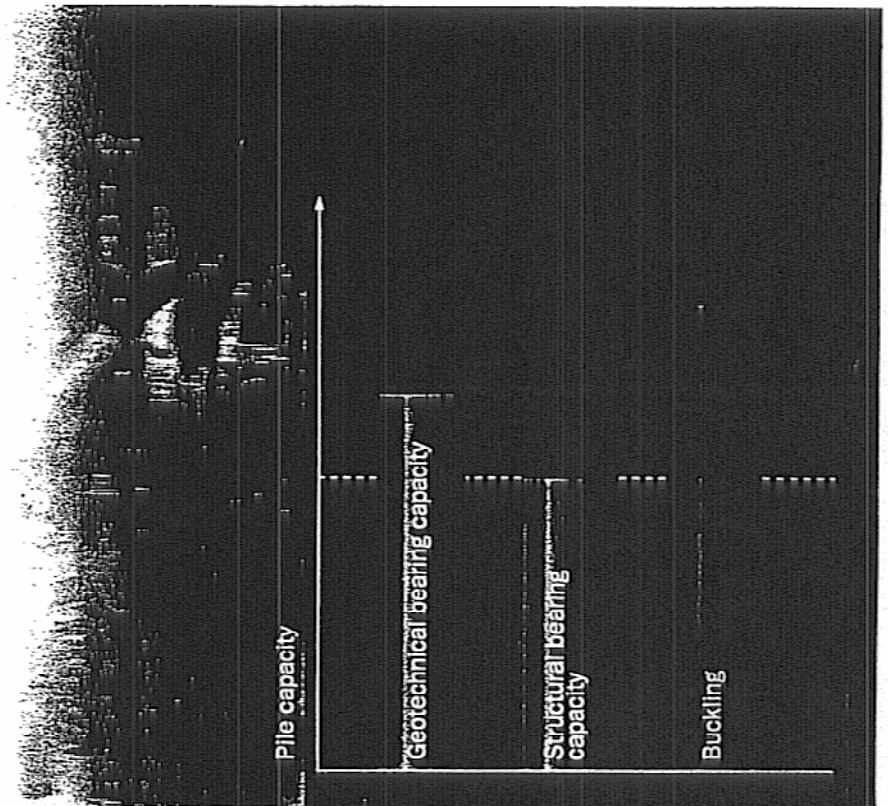
Sami Eronen

RR-Piles

Steel Pipe Piles

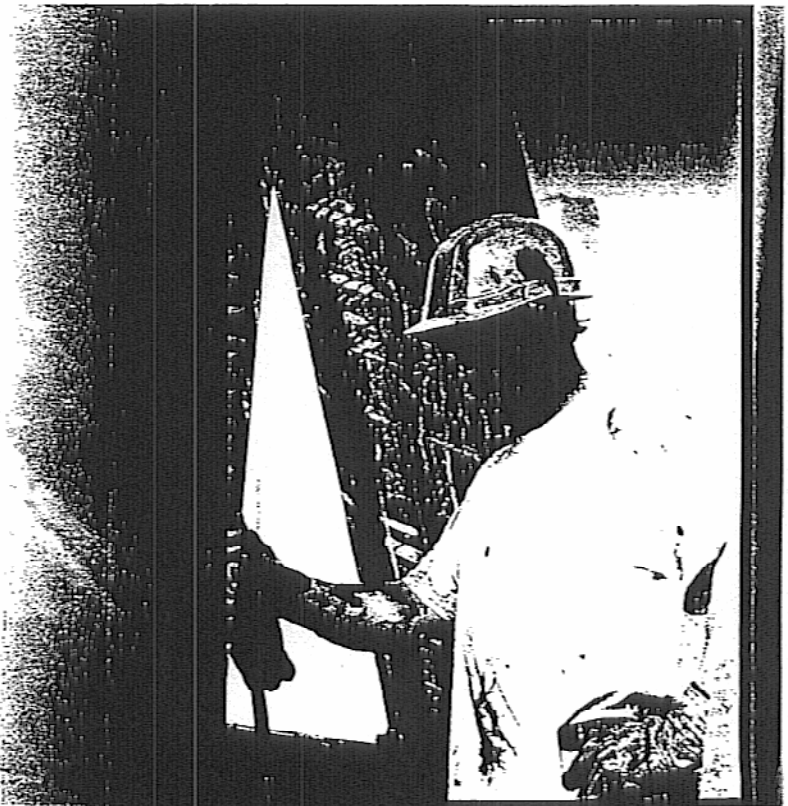
Dimensioning of Steel Pipe Piles

- Geotechnical dimensioning
- Structural dimensioning
- Buckling
- Connections to superstructures
- Corrosion



Advantages of Steel Pipe Piles

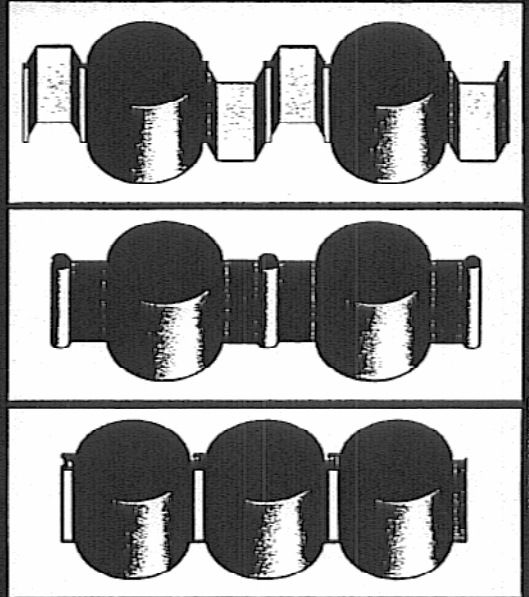
- High bearing capacity
- Minimum displacement of the surrounding soil
- Minimum risks of vibration
- Easy handling and installation
- Durability in installation
- Specified lengths, no waste meters
- Structural systems
- Overall economy



Retaining Walls from Steel Pipe Piles

Types for retaining walls and intermediate elements

- Combined wall with intermediate sheet pile elements
- Combined wall with plates and pipe interlocks
- Pipe pile wall

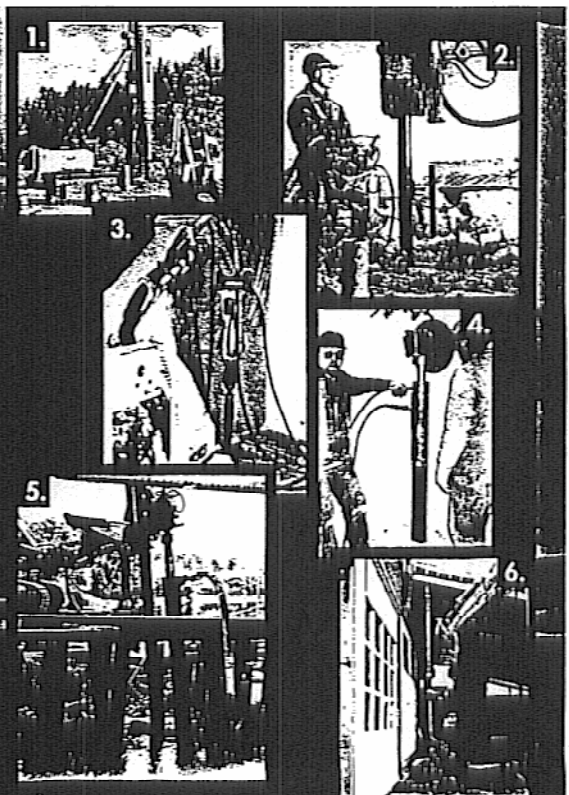


 **RAUTARUUKKI**

Tapani Aaltonen/Procon
13.1.2000

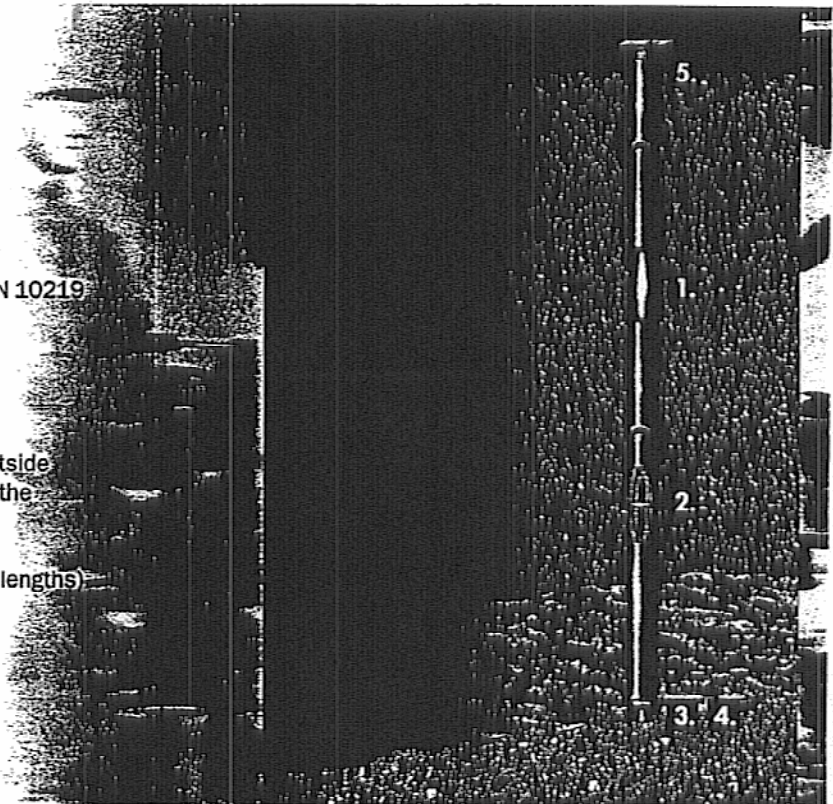
Installation Equipment of Steel Pipe Piles

1. Drop and hydraulic hammers
2. Compressed air hammers
3. Hydraulic rams
4. Jacking equipment
5. Drilling equipment
6. Vibrators



RR Piles, RR60-RR220

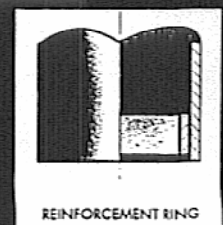
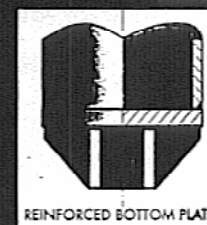
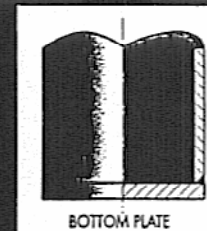
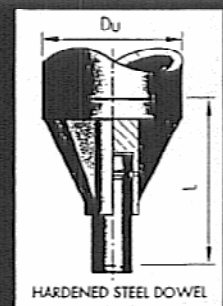
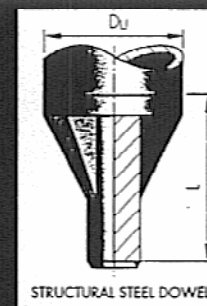
- Type approvals in Finland and Sweden
 - Technical delivery conditions: MEF SPEC 004/EN 10219
 - Steel grade S440J2H
 - Element lengths 1-16 m
1. Pipe pile elements (1-12 m) with fastened outside sleeve splice RR60-RR140 (RR170-RR220 in the near future)
 2. Inner unfastened splice (RR140-RR220 to all lengths)
 3. Rock shoes
 4. Bottom plates
 5. Pile caps



Tapio Aaltonen/Prosta
13.1.2000

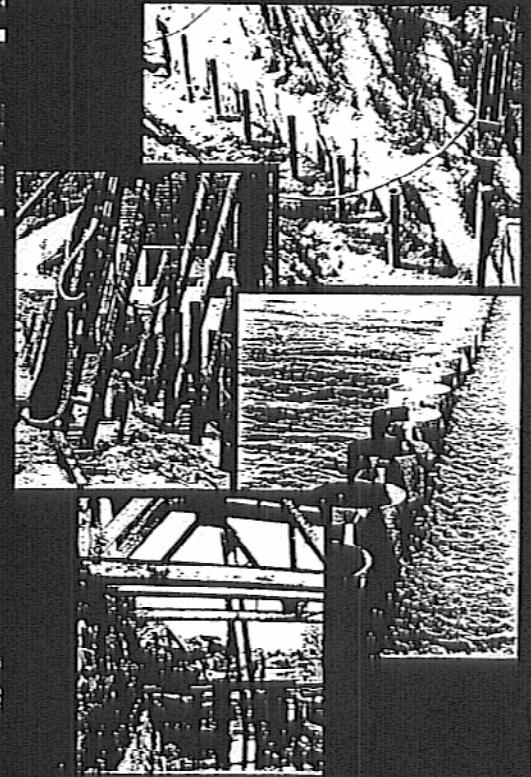
Driven Steel Pipe Piles, Ø 355-1220 mm

- Production lengths 6-26 m
- Wall thickness 10-16 mm
- Technical delivery conditions: EN 10219
- Steel grade S355J2H, when required also X60 and X70
- Splicing by welding (see the leaflet "The Splicing of Steel Pipe Piles by Welding")
- Rock shoes are approved by the Finnish National Road Administration, approval 1665/93/20/TIEL



Product Range of Steel Pipe Piles

- Driven micropiles, RR60-RR220
(Hämeenlinna Tube Works, Lappohja Works, Pulkkila Works)
- Driven steel pipe piles, \varnothing 355-1220 mm
(Oulainen Works)
- Retaining wall structures: Combined walls and pipe pile walls
(Oulainen Works)
- Drilled piles RD140-RD508
(Pulkkila Works, Oulainen Works)



Finland, Helsinki
15.2.2000

Application Areas of Steel Pipe Piles

- Foundations for detached and terrace houses, RR60-RR115
- Underpinning of existing foundations, RR115-RR170
- Foundations for residential blocks of flats as well as commercial and industrial buildings RR115- \varnothing 1220 mm
- Bridge construction, \varnothing 400-1220 mm
- Harbour construction, \varnothing 400-1220 mm

