

Portugal



Name: Comissão Portuguesa de Túneis e Espaço Subterrâneo (CPT)

Type of structure: A Committee of Sociedade Portuguesa de Geotecnia (SPG)

Number of members: 120 individual members, 13 collective members

2016 ACTIVITIES

WGs

- (1) Book - Tunnels in Portugal, (2) Contractual Practices (3) Health and Safety in Works (4) Immersed Tunnels (5) Underground Works and BIM

Events

- 4th International Seminar of CPT with the lema - Tunnels. From operation back to design (February 4 and 5, 2016)
- Hosting of the ITA-AITES ExCo meeting (February 6 and 7, 2016)

TUNNELS – UNDERGROUND WORKS

Completion of Marão twin tunnels

Owner: Infraestruturas de Portugal

Cost: 88 M€

Contractor: Teixeira Duarte, EPOS

Total length: 5.6km

Excavation vol: $1.4 \times 10^6 \text{m}^3$

Shotcrete: $3.4 \times 10^5 \text{m}^3$

Cast concrete, $1.8 \times 10^5 \text{m}^3$

Nails $2.5 \times 10^5 \text{m}$

Steel: 1500 ton



Progression of Águas Santa Tunnel construction

Owner: BRISA Concessões

Contractor: Ramalho Rosa

Cobetar Conduril

Amândio Carvalho

Total length: 370m

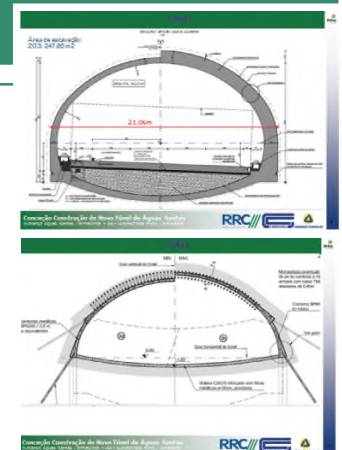
Excavation: vol $1.6 \times 10^5 \text{m}^3$

Shotcrete: $5.5 \times 10^3 \text{m}^3$

Cast concrete, $1.4 \times 10^4 \text{m}^3$

Swellex nails: $1.4 \times 10^4 \text{m}$

Steel: 610 ton, steel ribs 250 ton



FUTURE ACTIVITIES

CPT

- 1 day visit to Águas Santas Tunnel and Marão Tunnels operation unit (February 14, 2017)
- Workshop on Contractual Practices (September 21, 2017)
- Preparation of Health and Safety guidelines in Portuguese
- Completion of Águas Santas Tunnel
- Lisboa Drainage Plan tunnels (site investigation and tendering)
- Lisboa Metro Yellow line extension (feasibility studies)
- Albufeira Drainage Plan tunnel (site investigation and tendering)
- Underground Power schemes of Alto Tâmega dam (160MW, 1.2km tunnels, 40m shafts, $0.7 \times 10^5 \text{m}^3$ caverns), Daivões dam (118MW, 0.5km tunnels), Gouvães dam (880MW, 6.9km tunnels, 750m shafts, $1.25 \times 10^5 \text{m}^3$ caverns)

