

Grouting Instruction VL4 FIRST GROUT FAN

Tunnel	VL4 (W=6,9-H=6,9)
Instruction N°	General instruction 572

Chainage	1+744.9
Total Inflow face (L/s)	0.6
Total Inflow Probe holes (L/s)	2.8
Water pressure measured	6 Bar

1-DRILL 2 PROBE HOLES:

DRILL PROBE HOLES IN POSITIONS Nr 02 & Nr 11 WITH 27 M DEPTH.

GROUT ALL PROBE HOLES AS STANDARD GROUTING.

2- DRILL THE HOLES TO COMPLETE THE 1st CURTAIN (21 HOLES) AND GROUT:

DRILL THE HOLES AND INSTALL THE PACKERS. DRILL TO FULL LENGTH (IF $Q_w < 10$ l/s), OTHERWISE DRILL TO END OF RESPECTIVE ROD. MEASURE WATER INFLOW AND PRESSURE.

3- GROUT ALL HOLES AS INDICATED BELOW AND IN "NOTES".

Design Mix (Type A,B,C, D or E)	A
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WCR	0.45 if water inflow > 2.5 L/s 0.65 if water inflow < 2.5 L/s
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Closure criteria

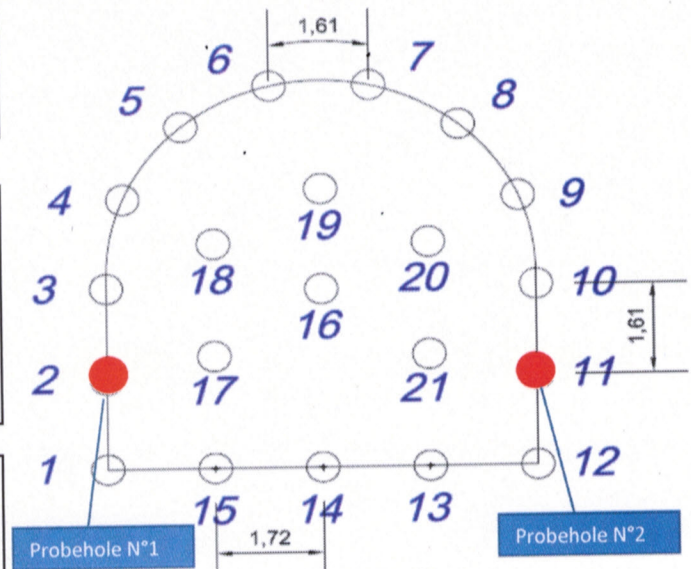
Pmax	25
Vmax (L/m borehole)	85
GIN	1000

Instructed by:	Andrés Tapia P.
Instruction date:	10-06-2016

HOLES

N° of Grout holes first curtain	21
Grout holes length (m)	27
Grout hole angle ref Tunnel axis	15°

Position of Grout holes 1st grout round:



NOTES:

1- The maximum increase of grouting pressure shall be not more than 2,5 bar per minute.

2- The use of Stand-Pipes shall be evaluated in field only if unfavorable conditions are found with a $Q_w > 10$ L/s.

Note: Subjected to further comments

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