

[1]钟旻,缪昇,秦云,等. “3·10”盈江地震管道节点破坏机理及抗震对策研究[J]. 自然灾害学报,2013,02:221-228.

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“3·10”盈江地震管道节点破坏机理及抗震对策

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Title: Study on damage mechanism of pipe' s joints in "3.10"Yingjiang earthquake and seismic countermeasures

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摘要: “3·10”盈江地震发生后,架空供水主管节点遭到了破坏,导致震后供水障碍。运用SAP2000软件模拟了地震作用下管道的受力、变形等情况,并运用有限元软件ANSYS对法兰盘进行了局部受力分析,总结出供水主管节点的破坏机理。针对破坏机理,提出了带橡胶垫层的槽型管道支架的抗震加固方式,并利用ANSYS软件研究了带橡胶垫层与不带橡胶垫层的槽型支座在节点位移、速度、应力以及相邻节点位移差值上的区别。

Abstract: Water supply obstacle occurred when overhead main pipe of water supply was damaged in the "3.10" Yingjiang earthquake. SAP2000 was used to simulate the stress and deformation of the pipes to summarize the damage mechanism, and ANSYS was used to analyze local stress of flange. According to the summarized damage mechanism, groove pipe support with rubber cushion was suggested to be the seismic strengthening measures. To explore advantages and disadvantages of groove pipe support with rubber cushion, the difference of displacement, velocity and stress between groove pipe supports with and without rubber cushion was analyzed in ANSYS.

参考文献/REFERENCES

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