VESDA VLI COUNTER-SINKING HOLES APPLICATION NOTE

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Preface

This Application Note provides instructions on the drilling of counter-sinking holes in a VESDA VLI pipe network. Xtralis recommends the use of counter-sinking holes in environments with high levels of ambient particulates to mitigate the blockage of sample holes.

Related Products

VESDA VLI.

Contents

1 Introduction

The application of ASD systems in environments with high levels of airborne particulates may increase the potential of sample hole contamination in the pipe network. Therefore, pipe network maintenance activities (i.e. back flush, manual cleaning of sample holes) are likely to be more frequent in such environments to ensure optimum protection.

With extensive experience in applying ASD systems in environments with high airborne particulate levels, Xtralis recommends counter-sinking the sample holes on the VLI pipe network as a simple and cost-effective measure to address the potential issue of sample hole contamination.

2 Counter-Sinking Hole

The counter-sinking sample hole configuration as shown in Figure 1 will aid in reducing the build-up of contaminants at and around the sample hole and reduce the incidence of hole blockage. The counter-sinking sample hole is applied on the pipe joiner or a suitable pipe connector with sufficient wall thickness to allow the formation of the counter-sunk profile.

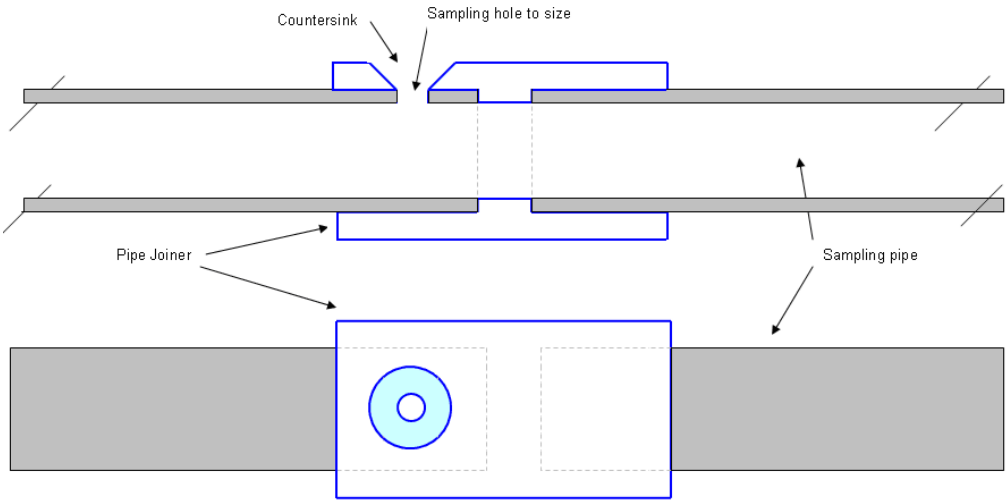

Figure 1: Counter-sinking Sampling Hole

3 Procedure

1. In line with ASPIRE calculations, drill the sample hole to size at one end of the pipe joiner and continue through into the sampling pipe at an angle of 90º.

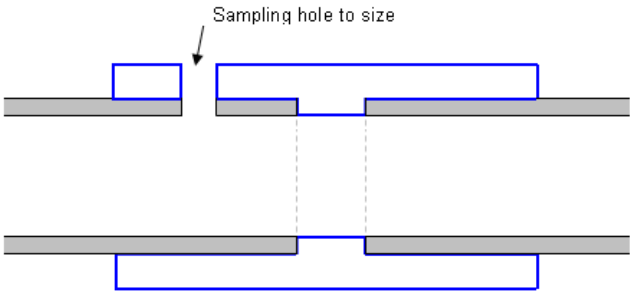

Figure 2: Creation of Sampling Hole

2. Use a counter-sinking or 'Rose' drill bit to counter-sink the sampling hole only through the joiner (not through the sampling pipe).

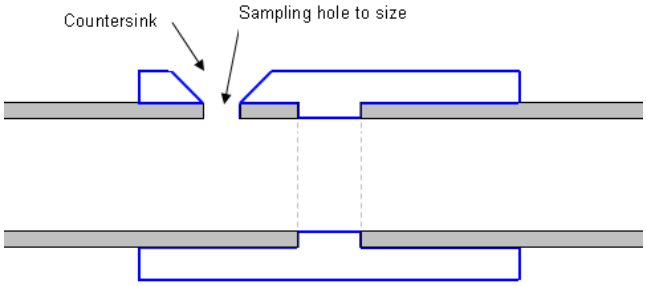

Figure 3: Creation of Counter-sinking Hole

The countersinking or 'Rose' drill bit shall have an angle of 45º. There are several types of bits available however not all are suitable. Wood working bits made for hard wood with multiple cutting edges are the only type that should be used when countersinking holes. Do not use metal or general purpose countersink bits as these might tear the plastic and create a rough crater (Figure 4).

Correct Type *Incorrect Type*

Figure 4: Counter-sinking or 'Rose' drill bit

Notes!

- The counter-sinking hole when drilled should not interfere or distort the size of the sampling hole.
- The counter-sinking hole must be as smooth as possible and free from burs or jagged edges – if necessary, use fine emery paper to remove any burs.

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