Exsys Case Study

Selecting Welding Procedures and Tests

An Engineering Company

Many engineering companies have built many knowledge automation systems for a wide variety of construction applications. Several systems have been developed to assist in various aspects of welding.

A PC based Welding Procedure Selection knowledge automation system was developed by an engineering company's construction specialists to help project supervisors identify appropriate welding procedures at field sites. The complexities of reconciling weld material types and sizes with construction policy make selecting these procedures difficult. This knowledge automation system gives welders printouts of the correct welding procedures, after simply inputting material specifications and related information. With some additional information, the system also provides time estimates and material requirements.

The Weld Defect Diagnosis knowledge automation system was developed to identify the causes of weld defects. To do this, it analyzes material types, welding procedures, environmental conditions, and personal observations of the welding area.

Welder Qualification Test Selection

This knowledge automation system chooses tests for welders, taking all relevant factors into consideration. Welder qualification tests, which are based on welding requirements and a complicated set of construction policies and procedures, can be very expensive. This system has significantly reduced costs at a major oil company by helping in the efficient selection of these tests.