

DMWeld_CandidateGradingSet

Field Name	Data Type	Size	
CGSID	int	4	Candidate Grading Set ID
CPAID	int	4	Candidate Procedure Attempt ID (used to count how many times a candidate attempts to qual with a given procedure)
TemplateName	nvarchar	100	Name of test set template
Alias	nvarchar	50	Sample Alias
SampleName	nvarchar	50	Name of Sample
UnitNumber	int	4	Unit numbers of a given Sample
UseForDET	bit	1	If checked unit will be used for detection
UseForLEN	bit	1	If checked unit will be used for length
UseForTWE	bit	1	If checked unit will be used for depth sizing
DetHit	bit	1	If checked flaw was detected
CandidateOrientation	nvarchar	50	Reported flaw orientation
CandidateStart	float	8	Reported flaw start position
CandidateStop	float	8	Reported flaw stop position
CandidateLength	float	8	Reported flaw length
CandidateFlawHeight	float	8	Reported flaw height
CandidateRemainingLig	float	8	Reported remaining ligament
CandidateUnitNote	nvarchar	1000	User input, note field for unit
PSESorNOZ	nvarchar	50	Used to indicate which side of weld candidate was given access from. We always use "PSES" - safe end side of weld
UnitStartX	float	8	Start position of unit in the circumferential direction
UnitStopX	float	8	Stop position of unit in the circumferential direction
UnitType	nvarchar	50	Flawed or Unflawed
FlawType	nvarchar	50	TF=thermal fatigue MF=machanical fatigue Other=alternative flaw BTF=branched thermal fatigue...
FlawLocation	nvarchar	50	9 locations for a flaw are defined. (Aust. Base material, Ferr. Base material, upstream in weld, downstream in weld, weld centerline, in the butter matr
FlawOrientation	nvarchar	50	Axial or Circumferential
FlawHeight	float	8	
PctT	float	8	Flaw percent of thickness based on thickness at flaw location
RemainingLig	float	8	Remaining ligament above flaw
IDMMStart	float	8	Flaw start location on component ID
IDMMEnd	float	8	Flaw stop location on component ID
ODMMPSEStart	float	8	Flaw start position on the safe end OD surface in mm
ODMMPSEEnd	float	8	Flaw stop position on the safe end OD surface in mm
TotalLenInsideSurface	float	8	Flaw length on inside surface
YReferenceFace	nvarchar	50	Sample reference face, upstream or downstream. This was used during weld centerline vs. flaw location determinations
ODMMNozzleLength	float	8	Flaw start position on the nozzle OD surface in mm
ODMMPSELength	float	8	Flaw start position on the nozzle OD surface in mm
Supp2	bit	1	checked if flaw is considered a Supplement 2 flaw (this is used during Supplement 14 qualifications)
Supp3	bit	1	checked if flaw is considered a Supplement 3 flaw (this is used during Supplement 14 qualifications)
DegLength	float	8	Length of flaw in degrees
GradingUnitID	int	4	
FilePath	nvarchar	1000	Used to link an external document to the record

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DMWeld CQProcAttemptCountsAndGrades

<u>Field Name</u>	<u>Data Type</u>	<u>Size</u>
CQGradeAndCountID	int	4
CPAID	int	4
FalseCalls	int	4
MissedDet	int	4 Flaw not detected
DETGrade	int	4 Detection grade
LENGrade	int	4 Length sizing grade
TWEGrade	int	4 Depth sizing grade
LENRMS	float	8 Length sizing RMS value
TWERMS	float	8 Depth sizing RMS value
S10Unflawed	int	4 Number of unflawed Supplement 10 grading units
S10Flawed	int	4 Number of flawed Supplement 10 grading units
S10Detected	int	4 Number of detected Supplement 10 flaws
S10FalseCalls	int	4 Number of false called Supplement 10 grading units
S10MissedDet	int	4 Number of Supplement 10 flaws not detected
S10DETGrade	int	4 Supplement 10 detection grade
S10LENUUnits	int	4 Number of Supplement 10 length sizing units
S10LENRMS	float	8 Supplement 10 length sizing RMS
S10LENGrade	int	4 Supplement 10 length sizing grade
S10TWEUnits	int	4 Number of Supplement 10 depth sizing units
S10TWERMS	float	8 Supplement 10 depth sizing RMS
S10TWEGrade	int	4 Supplement 10 depth sizing grade
S2Unflawed	int	4 Supplement 2 unflawed unit count
S2Flawed	int	4 Supplement 2 flawed unit count
S2Detected	int	4 Supplement 2 flaws detected
S2FalseCalls	int	4 Supplement 2 false calls
S2MissedDet	int	4 Supplement 2 missed detections
S2DETGrade	int	4 Supplement 2 detection grade, pass/fail
S2LENUUnits	int	4 Supplement 2 length sizing units count
S2LENRMS	float	8 Supplement 2 length sizing RMS value
S2LENGrade	int	4 Supplement 2 length sizing grade
S2TWEUnits	int	4 Supplement 2 depth sizing units
S2TWERMS	float	8 Supplement 2 depth sizing RMS value
S2TWEGrade	int	4 Supplement 2 depth sizing grade
S3Unflawed	int	4 Supplement 3 unflawed unit count

S3Flawed	int	4 Supplement 3 flawed unit count
S3Detected	int	4 Supplement 3 detected flaw count
S3FalseCalls	int	4 Supplement 3 false call count
S3MissedDet	int	4 Supplement 3 missed detection count
S3DETGrade	int	4 Supplement 3 detection grade
S3LENUUnits	int	4 Supplement 3 length sizing flaw count
S3LENRMS	float	8 Supplement 3 length sizing RMS
S3LENGrade	int	4 Supplement 3 length sizing grade, pass/fail
S3TWEUnits	int	4 Supplement depth sizing units
S3TWERMS	float	8 Supplement 3 depth sizing RMS value
S3TWEGrade	int	4 Supplement 3 depth sizing grade
S14Unflawed	int	4 Number of unflawed Supplement 14 grading units
S14Flawed	int	4 Number of flawed Supplement 14 grading units
S14Detected	int	4 Number of detected Supplement 14 flaws
S14FalseCalls	int	4 Number of false called Supplement 14 grading units
S14MissedDet	int	4 Number of Supplement 14 flaws not detected
S14DETGrade	int	4 Supplement 14 detection grade
S14LENUUnits	int	4 Number of Supplement 14 length sizing units
S14LENRMS	float	8 Supplement 14 length sizing RMS
S14LENGrade	int	4 Supplement 14 length sizing grade
S14TWEUnits	int	4 Number of Supplement 14 depth sizing units
S14TWERMS	float	8 Supplement 14 depth sizing RMS
S14TWEGrade	int	4 Supplement 14 depth sizing grade

DMWeld_CQProcAttemptsInfo

<u>Field Name</u>	<u>Data Type</u>	<u>Size</u>	
CPAID	int	4	
CandidateID	int	4	
TestDate	datetime	8	Date test taken
ProcedureID	int	4	Unique ID for procedure
AttemptSequence	int	4	how many times the qual has been attempted by this candidate
IsProcQualExam	bit	1	checked if this examination is a procedure qualification
ProcedureType	nvarchar	50	Manual or automated procedure
InitOrReq	nvarchar	50	Initial attempt or requalification (this was put here in case DM ever needed to be requalified)
SessionNumber	int	4	PDI Session number
KeyID	nvarchar	50	Unique ID for this attempt record
TemplateName	nvarchar	100	Name of test set template
ExamUnit	nvarchar	50	Unit of measure during examination (inch, mm, degrees)
IDorOD	nvarchar	50	Examination surface
IsGradingComplete	bit	1	Checked if grading is complete for this attempt

DMWeld_CQSkillsAttempts

<u>Field Name</u>	<u>Data Type</u>	<u>Size</u>
CQSAID	int	4
CPAID	int	4
ProcedureTypeID	int	4

DMWeld DefaultCodeRequirements

<u>Field Name</u>	<u>Data Type</u>	<u>Size</u>	<u>This information is a "look-up" table to validate that the test set meets Appendix VIII requirements</u>
MinNumFlawedUnits	int	4	
MinNumUnflawedUnits	int	4	
MinPct10to30PctT	float	8	
MinPct31to60PctT	float	8	
MinPct61to100PctT	float	8	
MinPct10to60PctT	float	8	
MinPctFlawsInWeld	float	8	
MinNumInFerBase	int	4	
MaxPctFlawsInFerBase	float	8	
MinNumInAustBase	int	4	
MaxPctFlawsInAustBase	float	8	
MinPctCracks	float	8	
MinPctAxials	float	8	
MaxPctAxials	float	8	
DETUnflawedToFlawedRatio	float	8	
LengthRMS	float	8	
DepthRMS	float	8	
MinPctCrackS2	float	8	
MinFlawedS2	float	8	
MinUnflawedS2	float	8	
MaxAxS2	float	8	
MinCircS2	float	8	
LengthRMSS2inch	float	8	
LengthRMSS2mm	float	8	
DepthRMSS2inch	float	8	
DepthRMSS2mm	float	8	
MinFlawedS3	float	8	
MinUnflawedS3	float	8	
MaxAxS3	float	8	
MinFerS3	float	8	
LengthRMSS3inch	float	8	
LengthRMSS3mm	float	8	
DepthRMSS3inch	float	8	
DepthRMSS3mm	float	8	

DMWeld GradingUnits

<u>Field Name</u>	<u>Data Type</u>	<u>Size</u>
GradingUnitID	int	4
SampleID	int	4
UnitNumber	int	4
UnitType	nvarchar	50
UnitStartX	float	8
UnitStopX	float	8
FlawID	nvarchar	50
FlawType	nvarchar	50
FlawOrientation	nvarchar	50
FlawLocation	nvarchar	50
FlawHeight	float	8
FlawTiltInDegrees	float	8
FlawSkewInDegrees	float	8
FlawHtInches	float	8
FlawNotes	nvarchar	1000
Supp2	bit	1
Supp3	bit	1
ActualT	float	8
PctT	float	8
IDCenterPoint	float	8
TotalLenInsideSurface	float	8
YReferenceFace	nvarchar	50
YStartRelativeToRefFace	float	8
YEndRelativeToRefFace	float	8
DegStart	float	8
DegEnd	float	8
DegLength	float	8
IDInchStart	float	8
IDInchEnd	float	8
IDInchLength	float	8
IDMMStart	float	8
IDMMEnd	float	8
NSInchStart	float	8
NSInchEnd	float	8

Previously defined information

NSInchLength	float	8
ODMMNozzleStart	float	8
ODMMNozzleEnd	float	8
ODMMNozzleLength	float	8
ODInchPSESStart	float	8
ODInchPSESEnd	float	8
ODInchPSESLength	float	8
ODMMPSESStart	float	8
ODMMPSESEnd	float	8
ODMMPSESLength	float	8
RemainingLig	float	8
RemainingLigInch	float	8
AxLength	float	8
DegCP	float	8
IDInchCP	float	8
NSInchCP	float	8
ODCPMMNozzle	float	8
ODInchPSESCP	float	8
ODMMPSESCP	float	8
YStartWeldCL	float	8
YEndWeldCL	float	8

DMWeld MaxDETFalseCallsLookup

<u>Field Name</u>	<u>Data Type</u>	<u>Size</u>
MaxFalseCallDETID	int	4
NumUnflawedUnits	int	4
MaxFalseCalls	int	4

Look-up Table to determine number of false calls allowed based on number of unflawed grading units

DMWeld_MinDETFlawLookup

<u>Field Name</u>	<u>Data Type</u>	<u>Size</u>
MinDetID	int	4
NumFlawedUnits	int	4
MinDETFlaws	int	4

Look-up Table to determine minimum number of flaw detections needed based on number of fla

wed grading units

DMWeld ProcedureTypes

<u>Field Name</u>	<u>Data Type</u>	<u>Size</u>
ProcedureTypeID	int	4
ProcedureType	bit	1 Manual/automated
InitOrRequal	bit	1 Initial or requalification
Supplement	int	4 10 or 14
Skill	nvarchar	50 What was tested (detection, length, depth or a combination of these)
CQProcGrade	nvarchar	50 Pass/fail

DMWeld Samples

<u>Field Name</u>	<u>Data Type</u>	<u>Size</u>
SampleID	int	4
SampleName	nvarchar	100
PSESOoutsideDiameterMM	float	8
PSESIinsideDiameterMM	float	8
NSOoutsideDiameterMM	float	8
NSIinsideDiameterMM	float	8
UpstreamDistance	float	8
DownstreamDistance	float	8
Notes	nvarchar	1000
FilePath	nvarchar	1000

General sample information - previously defined

DMWeld TestSetTemplateGradingUnits

<u>Field Name</u>	<u>Data Type</u>	<u>Size</u>
TSTGUID	int	4
TemplateID	int	4
GradingUnitID	int	4
Alias	nvarchar	50
UseForDET	bit	1
UseForLEN	bit	1
UseForTWE	bit	1

Another table which holds grading unit information - can be queried elsewhere

DMWeld TestSetTemplates

<u>Field Name</u>	<u>Data Type</u>	<u>Size</u>
TemplateID	int	4
TemplateName	nvarchar	100
IsCompliant	bit	1

Listing of test set templates