



VALLOUREC & MANNESMANN TUBES  
OCTG Division – R&D Premium Connections

## VAM Technical Notes **Compatibility between VAM connections**

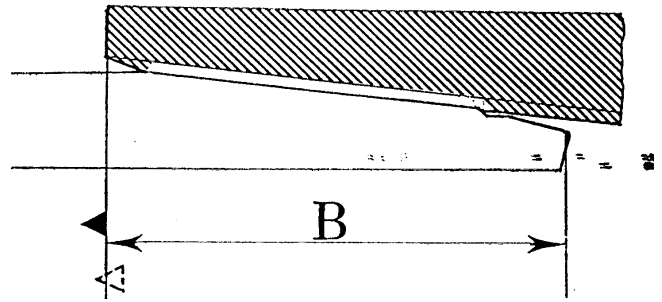


VAM connections cannot be run with any other VAM connections, except NEW VAM with Old VAM connections (VAM Std, VAM AF, VAM AG and VAM ATAC) and Casing VAM TOP family connections (VAM TOP, VAM TOP HT, VAM TOP HC and VAM TOP FE).

When these products are Isolated and named "Nx" they are not compatible with any products.

For VAM TOP Tubing, VAM FJL, VAM SLIJ-II, VAM SFC, VAM HW ST and VAM SL, pipes with the same diameter may have different threads tapers or threaded lengths depending on their wall thickness and are not compatible.

Mixing of VAM connections is not recommended, but sometimes it's possible to make-up some connections together with precautions described below. The usage of a cross over is strongly recommended when possible and in all case where connections are not compatible.



OD	B(mm) NEW VAM	B(mm) VAM Std
5"	116.0	118.0
5 1/2"	119.5	120.0
6 5/8"	122.0	125.0
7"	129.0	130.0
7 5/8"	133.5	135.0
8 5/8"	135.0	138.0
9 5/8"	135.0	138.0
10 3/4"	136.0	138.0
11 3/4"	136.0	138.0
13 3/8"	137.5	138.0

## Compatibility between VAM and Buttress connection

### Recommendations

The assembly of VAM or NEW VAM connections with BUTTRESS connections is not recommended since the thread profile of VAM/NEW VAM has more clearance than a BUTTRESS. However if no choice is left, and if the connection is located at a non strategic place (below the packer for example), end user can use the following method at their own risk. It's also to the end user to decide to "bakerlock" the connection.

This kind of assemblies has got no sealing properties.

Make up of VAM/NEW VAM Pin with BUTTRESS box end

- stamp a triangle at a distance (B) from end of VAM or NEW VAM pin end. Height of triangle = 9.5mm

- make up tolerance :  
mini = the face of coupling at the base of triangle  
Maxi = the face of coupling at 3mm over the base

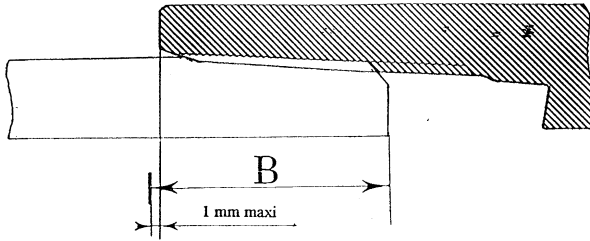
Note : it is strongly recommended to cut the nose of VAM or NEW VAM after stamping the triangle.

When making up of 2 VAM pin ends into the Buttress box, it is absolutely necessary to cut minimum one pin nose.

Make up of BUTTRESS Pin with VAM or NEW VAM box end

Caution : it is normally absolutely forbidden to make-up a BUTTRESS pin end with a VAM or NEW VAM box end. But, if a customer has got no choice, he can decide at his own risk to use the following method.

- Ensure that pin end root threads are vanishing on OD pipe.
- For make-up on VAM or NEW VAM, grind out the Buttress triangle and draw a line at the (B) value.



OD	B(mm) NEW VAM	B(mm) VAM Std
5"	108.5	96.0
5 1/2"	112.0	98.0
6 5/8"	114.5	103.0
7"	121.5	108.0
7 5/8"	126.0	113.0
8 5/8"	129.5	116.0
9 5/8"	129.5	116.0
10 3/4"	130.0	116.0
11 3/4"	130.0	116.0
13 3/8"	129.0	116.0

- c) make up tolerance :  
 mini = the face of coupling at 1mm before the line  
 Maxi = the face of coupling at the line

**Note** : in this case, we strongly recommend to "bakerlock" the connection.

### Compatibility between VAM and NEW VAM connections

Compatibility between VAM and NEW VAM connection

NEW VAM, VAM, VAM AF VAM AG and VAM ATAC can be combined but the torque to be applied depends only on the box member design.

Pin	Box NEW VAM NEW VAM MS (1)	VAM VAM ATAC	VAM AG VAM AF	NEW VAM SC VAM SC (2)
NEW VAM NEW VAM MS (1)	NEW VAM Optimum Torque	NEW VAM Optimum Torque	NEW VAM Minimum Torque	NEW VAM Optimum Torque
VAM VAM ATAC	NEW VAM Optimum Torque	NEW VAM Optimum Torque	NEW VAM Minimum Torque	NEW VAM Optimum Torque
VAM AG VAM AF	NEW VAM Optimum Torque	NEW VAM Optimum Torque	NEW VAM Minimum Torque	NEW VAM Optimum Torque
NEW VAM SC VAM SC (2)	NEW VAM Optimum Torque	NEW VAM Optimum Torque	NEW VAM Minimum Torque	NEW VAM Optimum Torque

(1) M.S matched Strength - (2) SC Special Coupling

**Note** : only applicable for sizes from 2 3/8" up to 9 5/8". For bigger diameter see below

### Compatibility between VAM / NEW VAM Draft and NEW VAM 4000 connections

For 10 3/4", 11 3/4" and 13 3/8" NEW VAM connections different drafts have been designed (and produced) and are replaced by the final drawings called NEW VAM 4103, 4113 and 4133. These drawings, reflecting the improvement of the properties of the connections.

#### 10 3/4" CONNECTIONS

Box end Pin end	VAM std STD 390 rev I 01/10/1982	NEW VAM Draft STD 1508 08/04/1987	NEW VAM Draft STD 1508 11/03/1988	NEW VAM STD 4103 rev A 08/02/1990
VAM standard STD 390 rev I 01/10/1982	Fully compatible	Possible make-up (*)	Possible make-up (*)	Possible make-up (*)
NEW VAM Draft STD 1508 08/04/1987	Possible make-up (*)	Fully compatible	Fully compatible	Fully compatible
NEW VAM Draft STD 1508 11/03/1988	Possible make-up (*)	Fully compatible	Fully compatible	Fully compatible
NEW VAM Draft STD 4103 rev A 08/02/1990	Possible make-up (*)	Fully compatible	Fully compatible	Fully compatible

#### 11 3/4" CONNECTIONS

Box end Pin end	VAM std STD 511 rev B 01/10/1982	NEW VAM Draft STD 1509 11/03/1988	NEW VAM STD 4113 rev A 08/02/1990
VAM std STD 511 rev B 01/10/1982	Fully compatible	Possible make-up (*)	Possible make-up (*)
NEW VAM Draft STD 1509 11/03/1988	Possible make-up (*)	Fully compatible	Fully compatible
NEW VAM STD 4113 rev A 08/02/1990	Possible make-up (*)	Fully compatible	Fully compatible

#### 13 3/8" CONNECTIONS

Box end Pin end	VAM std STD 373 rev M 21/09/1984	NEW VAM Draft STD 1510 08/04/1987	NEW VAM Draft STD 1510 11/03/1988	NEW VAM STD 4133 rev A 08/02/1990 STD 4004 rev A 21/09/1989 ELF UK
VAM standard STD 373 rev M 21/09/1984	Fully compatible	Possible make-up (*)	Possible make-up (*)	Not compatible
NEW VAM Draft STD 1510 08/04/1987	Possible make-up (*)	Fully compatible	Fully compatible	Not compatible
NEW VAM Draft STD 1510 11/03/1988	Possible make-up (*)	Fully compatible	Fully compatible	Not compatible
NEW VAM STD 4133 rev A 08/02/1990 STD 4004 rev A 21/09/1989 ELF UK	Possible make-up (*)	Possible make-up (*)	Possible make-up (*)	Fully compatible

**Note** \* : Connection noted as "Possible make-up" may not guarantee the equivalent properties as the ones achieved with the VAM Standard connection.

**Not compatible** : No make-up is possible between these 2 products.

## VAM TOP connections

Casing VAM TOP, VAM TOP HT and VAM TOP HC threads are interchangeable (seal taper = 20°). Nevertheless due to the gap between D1 / D2 values of VAM TOP HT / VAM TOP HC connections with VAM TOP the usage of a cross-over is mandatory.

→ VAM TOP casing is compatible with VAM TOP HT / VAM TOP HC

### Particular case of 4 ½"

Same Thread Profile for VAM TOP casing, VAM TOP HT, VAM TOP HC but VAM TOP tubing has its own Thread Profile

Same Seal Profile for VAM TOP HT and VAM TOP HC (20° seal angle) but VAM TOP tubing has its own Seal Profile (50% seal taper).

Torque value is different for each connection

→ 4 ½" VAM TOP HC / HT is NOT compatible with 4 ½" VAM TOP tubing.

→ 4 ½" VAM TOP HC does not offer compression advantage on 4 ½" VAM TOP "standard" and does not exist any more

## VAM TOP FE

Cases exist, where there is a need to assemble VAM TOP and VAM TOP FE threads, for example hydraulic test plugs or possibly accessories. This kind of assembly is to be considered very cautiously since the resulting fatigue performance can no longer be guaranteed : it is therefore not a recommended practice.

Due to the specificity of VAM TOP FE thread profile compared to VAM TOP, VAM TOP pin ends can be assembled with VAM TOP FE couplings, but VAM TOP FE pin ends can not be made up with VAM TOP box ends. See following compatibility chart.

	VAM TOP FE <i>Pin</i>	VAM TOP FE <i>Box</i>
VAM TOP <i>Pin</i>		Compatible
VAM TOP <i>Box</i>	Not compatible	

*Compatibility chart between VAM TOP & VAM TOP FE connections*