

Innovative technology for pipe protection

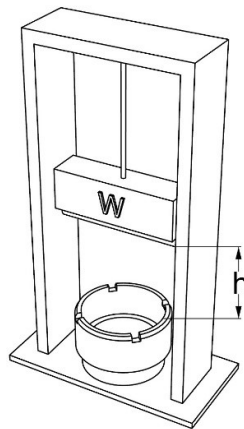
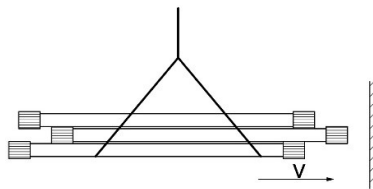
Thread Protectors Test

Tested protectors: 10 ¾" VAM 21 65.70lb/ft Full Plastic

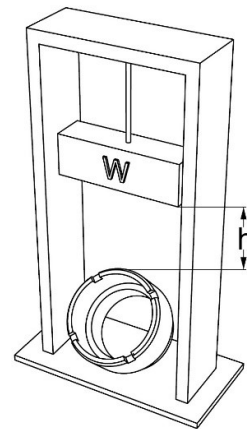
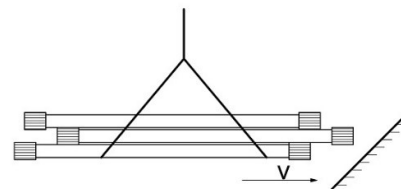
Issue Date: 01 / 03 / 2016

Validation Procedure:

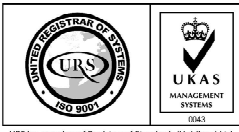
Axial Impact Test



Angular Impact Test



	Name	Position	Signature
Tested by	A. Burghoff	Engineering	<i>A. Burghoff</i>
Written by	A. Burghoff	Engineering	<i>A. Burghoff</i>
Reviewed by	J.-P. Kroll	MD Engineering	<i>J.-P. Kroll</i>
Approved by	T.J. Kroll	Managing Director	<i>T.J. Kroll</i>



Index

	Page
Product Information	3
Axial Impact Test	4
Angular Impact Test	6
Test Summary Report	8
References	9

Innovative technology for pipe protection

Product Information



PIN protector information	
Diameter	10 ¾"
Weight	65.70 lb/ft
Thread	VAM 21
Material	Exquip Polypropylen
Protector Type	CENL
Drawing Reference	P-10.755-P Rev. B



BOX protector information	
Diameter	10 ¾"
Weight	65.70 lb/ft
Thread	VAM 21
Material	Exquip Polypropylen
Protector Type	CEL
Drawing Reference	P-10.755-P Rev. B

Innovative technology for pipe protection

Axial Impact Test for PIN

Tests performed under API 5CT 9th Ed., Annex I:

Temp °C (°F)	Impact Load Joules (lb-ft)	Result
-46 (-50)	1085 (800)	OK, no connection damage
+21 (70)	2034 (1500)	OK, no connection damage
+66 (150)	2034 (1500)	OK, no connection damage



Protector after -46°C test



Protector after +21°C test



Protector after +66°C test

Innovative technology for pipe protection

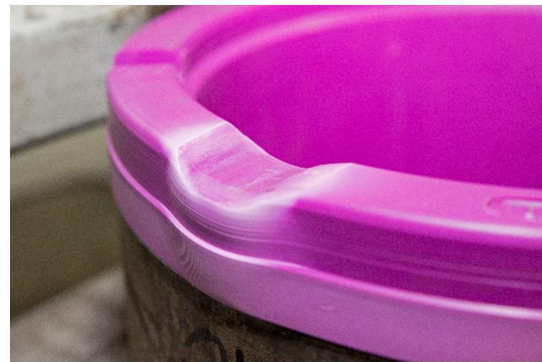
Axial Impact Test for BOX

Tests performed under API 5CT 9th Ed., Annex I:

Temp °C (°F)	Impact Load Joules (lb-ft)	Result
-46 (-50)	1085 (800)	OK, no connection damage
+21 (70)	2034 (1500)	OK, no connection damage
+66 (150)	2034 (1500)	OK, no connection damage



Protector after -46°C test



Protector after +21°C test



Protector after +66°C test

Innovative technology for pipe protection

Angular Impact Test for PIN

Tests performed under API 5CT 9th Ed., Annex I:

Temp °C (°F)	Impact Load Joules (lb-ft)	Result
-46 (-50)	542 (400)	OK, no connection damage
+21 (70)	1017 (750)	OK, no connection damage
+66 (150)	1017 (750)	OK, no connection damage



Protector after -46°C test



Protector after +21°C test



Protector after +66°C test

Innovative technology for pipe protection

Angular Impact Test for BOX

Tests performed under API 5CT 9th Ed., Annex I:

Temp °C (°F)	Impact Load Joules (lb-ft)	Result
-46 (-50)	542 (400)	OK, no connection damage
+21 (70)	1017 (750)	OK, no connection damage
+66 (150)	1017 (750)	OK, no connection damage



Protector after -46°C test



Protector after +21°C test



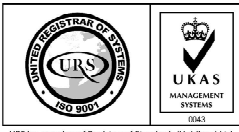
Protector after +66°C test

Innovative technology for pipe protection

Test Summary Report

Tests performed under API 5CT 9th Ed., Annex I:

Test	Protector type	Temp °C (°F)	Acceptable		Comments
			YES	NO	
Axial Impact Test	PIN	-46 (-50)	✓		OK, no connection damage
		+21 (70)	✓		OK, no connection damage
		+66 (150)	✓		OK, no connection damage
Angular Impact Test	PIN	-46 (-50)	✓		OK, no connection damage
		+21 (70)	✓		OK, no connection damage
		+66 (150)	✓		OK, no connection damage
Axial Impact Test	BOX	-46 (-50)	✓		OK, no connection damage
		+21 (70)	✓		OK, no connection damage
		+66 (150)	✓		OK, no connection damage
Angular Impact Test	BOX	-46 (-50)	✓		OK, no connection damage
		+21 (70)	✓		OK, no connection damage
		+66 (150)	✓		OK, no connection damage



Innovative technology for pipe protection

References

- API Specification 5CT, 9th Edition, July 1, 2011
- IADC/SPE 17209 & 11396