

**EXAMINATION REPORT N°03 Lox****1 – Foundation upper surface (according to sketch 1)**

Acceptable\*

-OR-

Not acceptable\*

**2 – Inner vessel anchoring system (according to sketch 2)**

Quantity of straps:

OK ~~or not OK~~

Position according to detail 9 of civil-engineering drawing

OK ~~or not OK~~

straps	1	2	3	4	5	6	7	8	9	10	11	12	13	14
					IN THE TOLERANCE									
R1	OK													OK
HS	OK													OK
ST1	OK													OK
ST	OK													OK

n° straps	15	16	17	18	19	20	21	22	23	24	25	26	27	28
					IN THE TOLERANCE									
R1	OK													OK
HS	OK													OK
ST1	OK													OK
ST	OK													OK

n° straps	29	30	31	32	33	34	35	36	37	38	39	40	41	42
					IN THE TOLERANCE									
R1	OK											OK		
HS	OK											OK		
ST1	OK											OK		
ST	OK											OK		

n° straps	43	44	45	46	47	48	49	50	51	52	53	54	55	56
R1														
HS														
ST1														
ST														

n° straps	57	58	59	60	61	62	63	64	65	66	67	68	69	70
R1														
HS														
ST1														
ST														

Acceptable\*

-OR-

Not acceptable\*

**CMP ARLES**Constructions Métalliques  
et Préfabrication d'Arles

1, Rue Copernic - Z.I. Nord - 13200 ARLES

☎ : 04.90.93.33.30 - Téléfax : 04.90.93.33.31

**3 – Outer tank anchoring system (according to sketch 2)**Quantity of anchoring: OK ~~or not OK~~

n° bolting	1	2	3	4	5	6	7	8	9	10	11	12	13	14
						IN THE TOLERANCE								
R2	OK													OK
HB	OK													OK
SB1	OK													OK
SB	OK													OK

n° bolting	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	IN THE TOLERANCE													
R2	OK	OK												
HB	OK	OK												
SB1	OK	OK												
SB	OK	OK												

Acceptable\*

~~OR~~

Not acceptable\*

**4 – Holes reservation in the foundation**

HOLE RESERVATION FOR F1

x1 = 2300 mm

y1 = 2300 mm

HOLE RESERVATION FOR F2

x2 = 2300 mm

y2 = 2300 mm

Acceptable\*

~~OR~~

Not acceptable\*

Made at KOSICE/US-STEEL on 28/02/2005  
Fait à le:For the civil-engineering / Pour le civil-génie  
M.For the customer / Pour le client  
M.

For CMP Arles / Pour CMP Arles

M. DUFLOT. PH



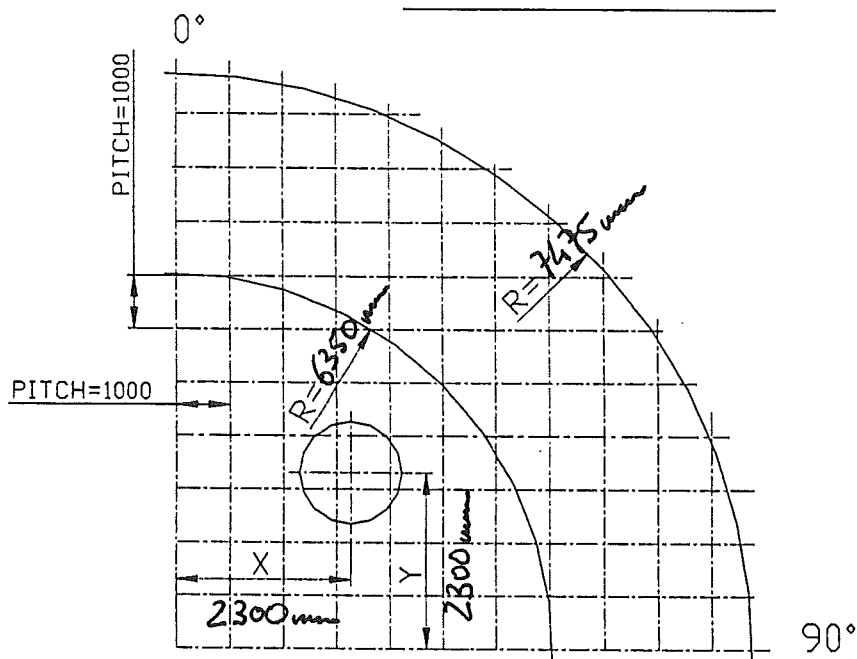
# CMP ARLES

Constructions Métalliques  
et Préfabrication d'Arles.

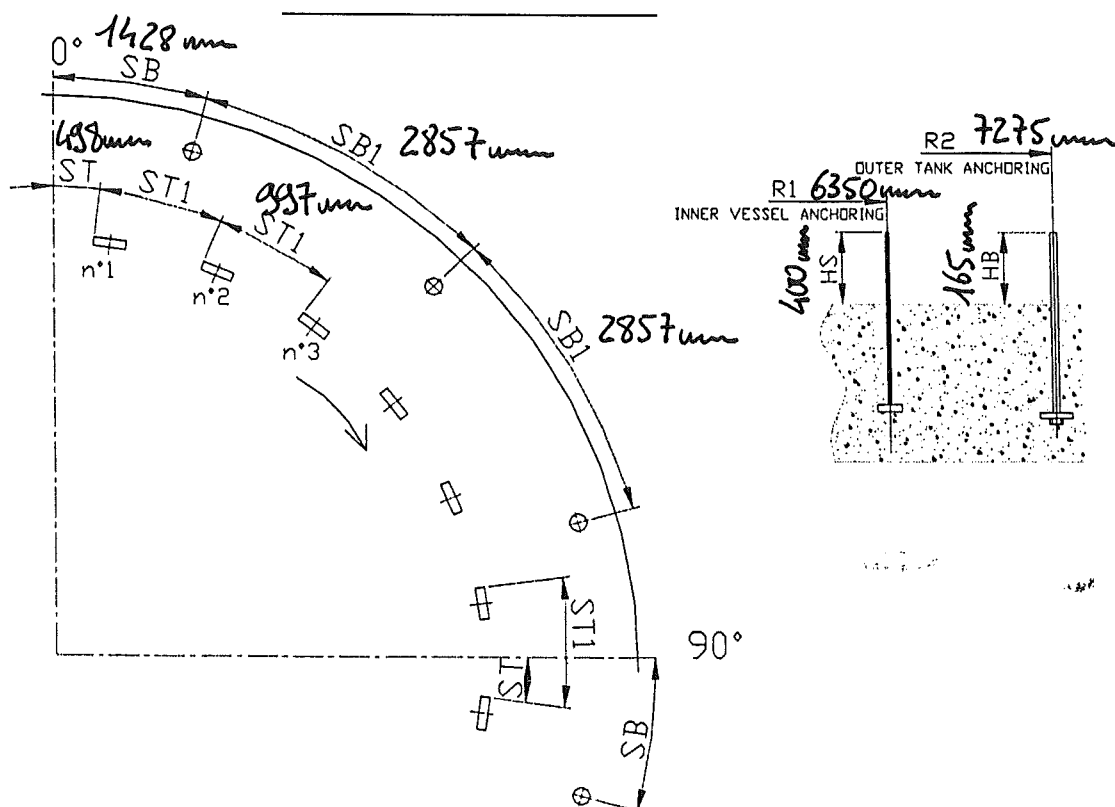
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☎ : 04.90.93.33.30 - Téléfax : 04.90.93.33.31

## SKETCH 1



## SKETCH 2



Dossier CMP Arles : 783

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Client / Customer : AIR LIQUIDE AGS GmbH

Engineered System N° :

# 1 RESERVOIR DE STOCKAGE LOX 1800 MT

## 1 X 1800 MT LOX STORAGE TANK

### ITEM B 62001

## SPECIFICATION FOR ANCHORAGE STRAPS EMBEDDED PART TESTING

BON POUR EXECUTION  
RELEASED FOR FABRICATION

1		01/02/05	DUPRESSOIR	<del>REMY</del>	01/02/05	REMY	<del>REMY</del>	01/02/05	LEBOUCQ	<del>REMY</del>	
EDITION EDITION N°	REFERENCE CLIENT REF.	DATE	NOM NAME	SIGN.	DATE	NOM NAME	SIGN.	DATE	NOM NAME	SIGN.	ETAT D'AVANC STATUS
REDACTEUR DRAWN UP BY				VERIFICATEUR CHECKED BY				APPROBATEUR APPROVED BY			

Classement CMP Arles : **783-ANC-01**  
CMP Arles document N°

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**Client / Customer : AIR LIQUIDE AGS GmbH**

**Proc. N° : 783-ANC-01**

INDICE DE REVISION: 0/ / / / / / /  
revision number

[illegible]

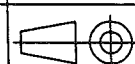
## OBJET DES MODIFICATIONS

### *Subject of modifications*

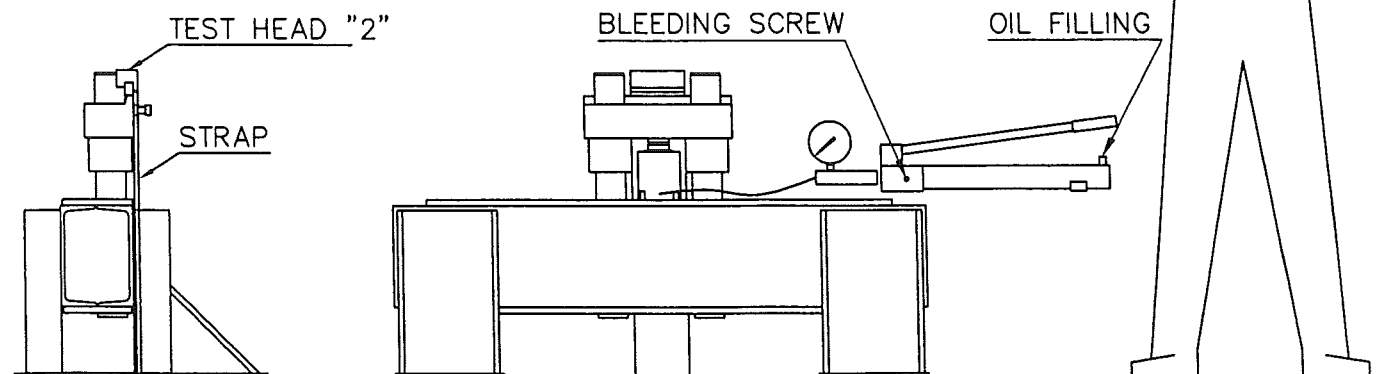
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- 1 - THE TEST MUST BE ACCOMPLISHED BEFORE CLOSING FLAT BOTTOM FOR CONCRETE VISUAL EXAMINATION .
- 2 - THE CONCRETE MUST BE AT ITS MAXIMUM MECHANICAL CHARACTERISTICS DURING THE TEST ( GENERALLY AFTER 28 DAYS CURRING) .
- 3 - THE QUANTITY OF ANCHORAGE STRAPS IS DEFINED ON THE DRAWING 783-01
  - THE LOCATION OF ANCHORS TO BE TESTED MUST BE GIVEN BY THE CUSTOMER
  - TESTED ANCHORS SHALL BE EQUALLY SPACED
  - WELDING OF THE TEST HEAD ACCORDING TO WPS 0135 OF WELDING CATALOGUE CS1
- 4 - CHECK STRAP DIMENSIONS :
  - \* WIDTH AND THICKNESS .
  - \* LENGTH ABOVE CONCRETE .
  - \* CONCRETE FLATNESS IN THE TEST AREAS .
- 5 - MOVE THE TEST MACHINE FROM STRAP TO STRAP WITH A MANUAL FORKLIFT
  - THE HYDRAULIC CYLINDER IS AT LOW POSITION.

TANK  
AXIS**TOP CONCRETE SLAB DON'T PUT AND LEAVE OIL**

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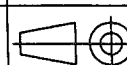
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Rev 0

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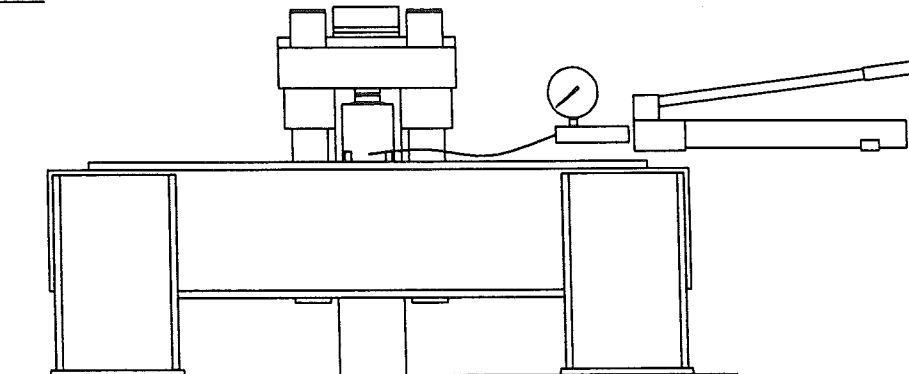
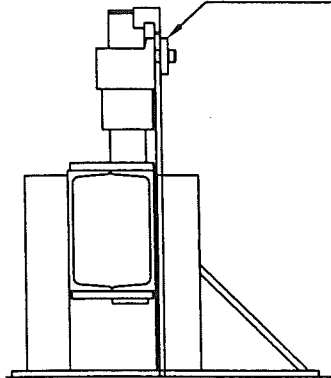
Echelle/Scale

/

6 - POSITION THE STOP PLATE "4" USING THE 20 DIA. PINS TO MAINTAIN STRAP IN POSITION

TANK  
AXIS

STOP PLATE "4"



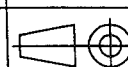
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**Client / Customer : AIR LIQUIDE AGS GmbH**

Engineered System N° :

Rev 0

**Proc. N° : 783-ANC-01****PROCESS PROGRESS**

Echelle/Scale

/

7 - WITH THE HYDRAULIC JACK, PUT THE SLIDING BLOCK "3" IN CONTACT WITH THE TEST HEAD "2" .

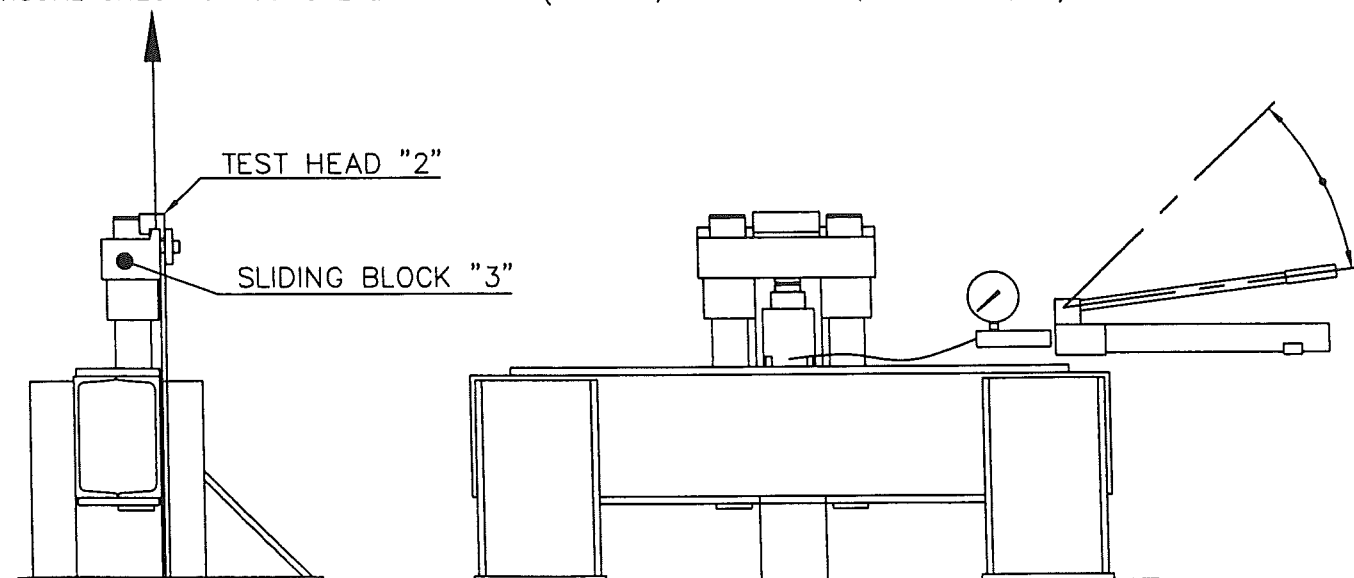
8 - FORCE SHALL BE APPLIED BY SMOOTH PROGRESSIVE PRESSURATION USING THE MANUAL PUMP

9 - PROCEED AS FOLLOWS:

- APPLY 85kN (i.e. 50 % OF THE MAXIMUM LOAD) AND STAY AT THIS LOADING DURING 5 MIN.
- RELEASE THE PRESSURE TO ONLY MAINTAIN THE CONTACT SLIDING BLOCK/TEST HEAD AND STAY 5 MIN.
- APPLY 125kN (i.e. 75 % OF THE MAXIMUM LOAD) AND STAY AT THIS LOADING DURING 5 MIN.
- RELEASE THE PRESSURE TO ONLY MAINTAIN THE CONTACT SLIDING BLOCK/TEST HEAD AND STAY 5 MIN.
- APPLY 165kN (i.e. 100 % OF THE MAXIMUM LOAD) AND STAY AT THIS LOADING DURING 5 MIN.
- RELEASE THE PRESSURE TO ONLY MAINTAIN THE CONTACT SLIDING BLOCK/TEST HEAD AND STAY 5 MIN.

10 - REPEAT THE LOADING AT 100% OF THE MAXIMUM LOAD AND STAY AT THIS LOADING

11 - VISUAL CHECK OF CONCRETE BEHAVIOUR( CRACK, DEFORMATION, FLATNESS,... )

TANK  
AXIS

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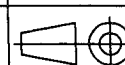


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Rev 0

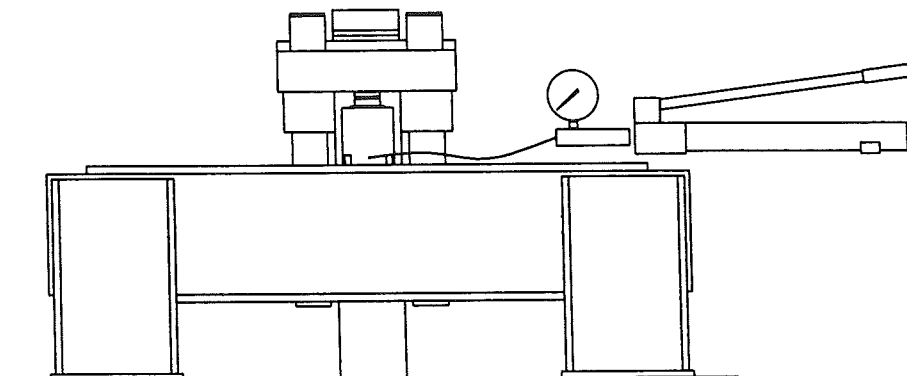
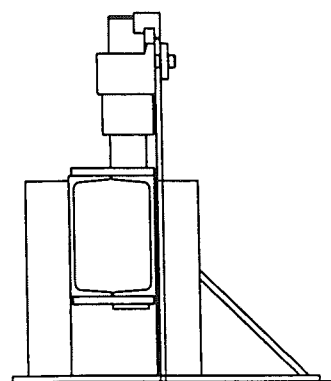
**Proc. N° : 783-ANC-01****PROCESS PROGRESS**

Echelle/Scale

/

TANK  
AXIS

12 – PULL DOWN THE HYDRAULIC JACK (PRESSURE=0) USING THE BLEEDING SCREW



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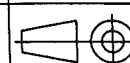
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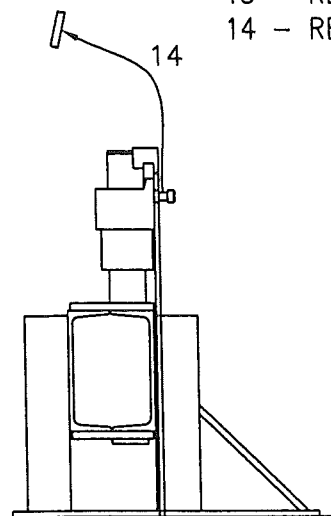
**Client / Customer : AIR LIQUIDE AGS GmbH** Engineered System N° :

Rev 0

**Proc. N° : 783-ANC-01****PROCESS PROGRESS**

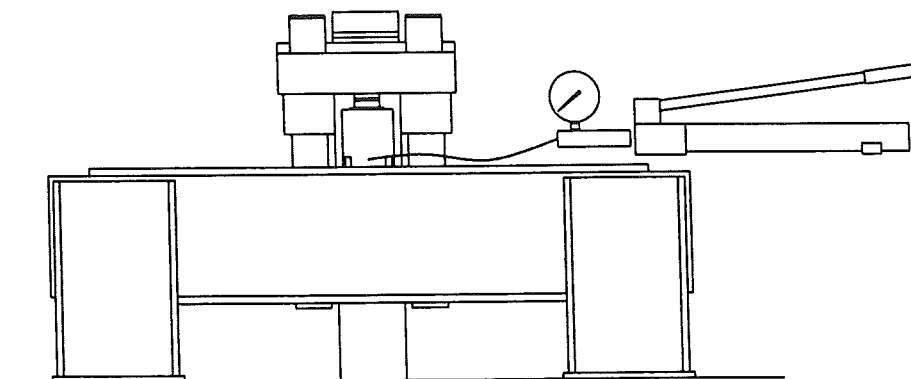
Echelle/Scale

/

TANK  
AXIS

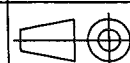
13 - REMOVE THE STOP PLATE "4" .

14 - REMOVE THE MACHINE AND PROCEED WITH THE NEXT STRAP

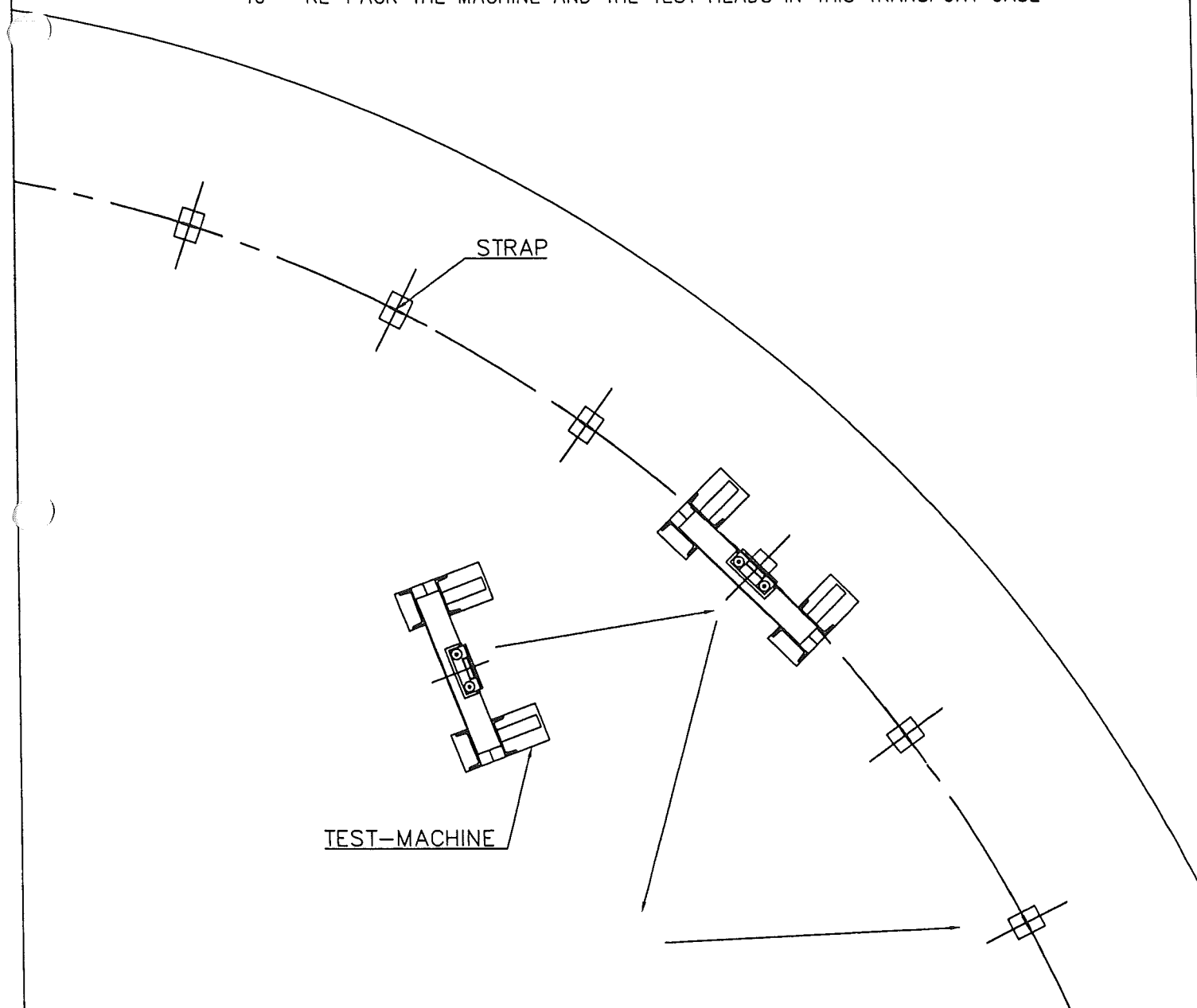


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**Dossier CMP Arles : 783****Page/Sheet 8/8****Client / Customer : AIR LIQUIDE AGS GmbH****Engineered System N° :****Rev 0****Proc. N° : 783-ANC-01****PARTIAL TOP VIEW****Echelle/Scale****/**

- 15 - AFTER TESTS, CUT OFF THE TEST HEAD AND PROCEED WITH WELD PREPARATION  
FOR INSTALLATION OF STRAP UPPER PARTS  
16 - RE-PACK THE MACHINE AND THE TEST HEADS IN THIS TRANSPORT CASE



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**CMP ORDER :** 783/784  
**AIR LIQUIDE ORDER :** ASU N°9 K 70101  
**SITE :** KOSICE (SLOVAKIA)

**DATE :** 28/02/2005

## **REPORT N°01**

FOLLOWING DOCUMENT CMP Arles N° 784-QP1 rev:A op: 1. 5

ACCORDING WITH SPECIFICATION CMP Arles N° 783-ANC-01 rev: 1

The followings anchors straps have been successfully tested:

- Located 85,50° : visual examination : Conform.(no cracks, no deformation)
- Located 184,50°: visual examination : Conform.(no cracks, no deformation)
- Located 265,50°: visual examination : Conform.(no cracks, no deformation)
- Located 355,50°: visual examination : Conform.(no cracks, no deformation)

This test was realised with Air Liquide and US/STEEL attendance.

DUFLOT Philippe  
CMP Arles

A handwritten signature in black ink, appearing to read 'P. DufLOT' with a stylized flourish.