

REPORT

Pendulum impact testing on double bar gate type DG-950 (UDG-37)

**Report no:
2400-A-047
Revision 1**

**Released on:
4-Feb-2014**



Member of TÜV NORD Group

Client	ISP Intrepid Safety Products BV P. Boumanstraat 37 4583 SH TERHOLE The Netherlands
Project	Pendulum impact testing on double bar gate type DG-950 (UDG-37)
Conclusion	Tested samples pass the requirements regarding the pendulum impact test as executed.
Date of execution 04 Feb 2014	Executed by: R. de Bode of TÜV Nederland QA B.V.
Date of release 4-Feb-2014	
Released by	
Report number: 2400-A-047	

© TÜV Nederland QA B.V.

All Rights Reserved.

No part of this report or any of its contents may be reproduced, copied, modified or adapted, without the prior written consent of the TÜV Nederland QA B.V. Commercial use and distribution of the contents of this report is not allowed without express and prior written consent of TÜV Nederland QA B.V.

The General Terms and Conditions of TÜV Nederland QA BV are applicable to this document. The general terms and conditions can be downloaded through our website www.tuv.nl.

Table of content

1 Introduction4

2 Test specimen4

3 Test procedure4

4 Results5

5 Summary / Discussion / Conclusion5

6 Annex A, test specimen6

7 Annex B, test equipment7

8 Annex C, Adapter for pipes9

1 Introduction

ISP Intrepid Safety Products BV has requested TÜV Nederland QA B.V. to witness the testing of a double bar gate on impact behavior.

2 Test specimen

The following test specimen were provided and selected by the assignor. TÜV Nederland QA was not involved in the sampling.

Test specimen information	
Producer	Intrepid Industries Incorporated (U.S.A.)
Description	Gravity closing, Double bar gate
Identification	DG-950 (UDG-37)
Amount	Thirty one test samples
Drawing / more details	See Annex A of this report

Table 1

3 Test procedure

The test was conducted in accordance with the testing procedure developed on request of the Dutch Government by the Dutch Organization for Applied Physical Research (TNO), as published in report B-92-1143 of April 1994. This test procedure is intended to be applied to building constructions that form part of roofs or partitions at height differences between adjacent floors or between a floor and the adjacent terrain. The test procedure is used to determine whether or not the fixed object can withstand an impact force.

A test specimen is inspected visually, before and after a pendulum impact. A pass or no pass of the test is judged by an evaluation of any permanent defects on the tested construction and its fixation, resulting from the impact test. Forming of cracks and or breakage is allowed, as long as no opening of 100mm by 100mm in the product or its fixation is formed. In case of this specific product, no breakage or deformation through which a person could fall, or any large fragments that come loose as result of the test may occur. In these cases the product is judged as failing the test.

Overview of test parameters	
Test date [dd-mm-yyyy]:	04-02-2014
Category [steel/aluminium, wood/concrete, other]:	other
Weight of the impactor [kg]	50 ± 2%
Content of the impactor	glass pearls, diameter (3 ± 0.5) mm
Drop height [mm]:	1150
Height difference between highest suspension point and impact point (see Annex B for drawing) [mm]:	2400
Test temperature [°C]:	10 ± 2
Point of impact	at weakest point (due to the size of the product, one impact point selected instead of 3 points)
Number of tested samples:	30

Table 2

Additionally, one test specimen was mounted with a special mounting bracket which allows to mount the product to pipes. Details of this adapter can be found in Annex C.

A schematic overview of the pendulum impact tester as used is attached to this report in Annex B.

4 Results

Table 3 presents the results obtained from of the pendulum impact testing as conducted.

Test specimen [no.]	Drop height [mm]	Result [pass/ no pass]	Test specimen [no.]	Drop height [mm]	Result [pass/no pass]	Test specimen [no.]	Drop height [mm]	Result [pass/no pass]
1	1150	pass	11	1150	pass	21	1150	pass
2	1150	pass	12	1150	pass	22	1150	pass
3	1150	pass	13	1150	pass	23	1150	pass
4	1150	pass	14	1150	pass	24	1150	pass
5	1150	pass	15	1150	pass	25	1150	pass
6	1150	pass	16	1150	pass	26	1150	pass
7	1150	pass	17	1150	pass	27	1150	pass
8	1150	pass	18	1150	pass	28	1150	pass
9	1150	pass	19	1150	pass	29	1150	pass
10	1150	pass	20	1150	pass	30	1150	pass

Table 3

Sample number 31 was mounted with a special mounting bracket for pipes and tested under the same conditions. Also this sample passed the test. See Annex C for details.

5 Conclusion

The double bar gate type DG-950 (UDG-37) test specimen as send in by ISP Intrepid Safety Products BV and tested according to the test procedure as developed by the Dutch Organisation for Applied Physical Research (TNO) is judged to fulfill the requirements. This test report applies to the tested specimen.

6 Annex A, test specimen

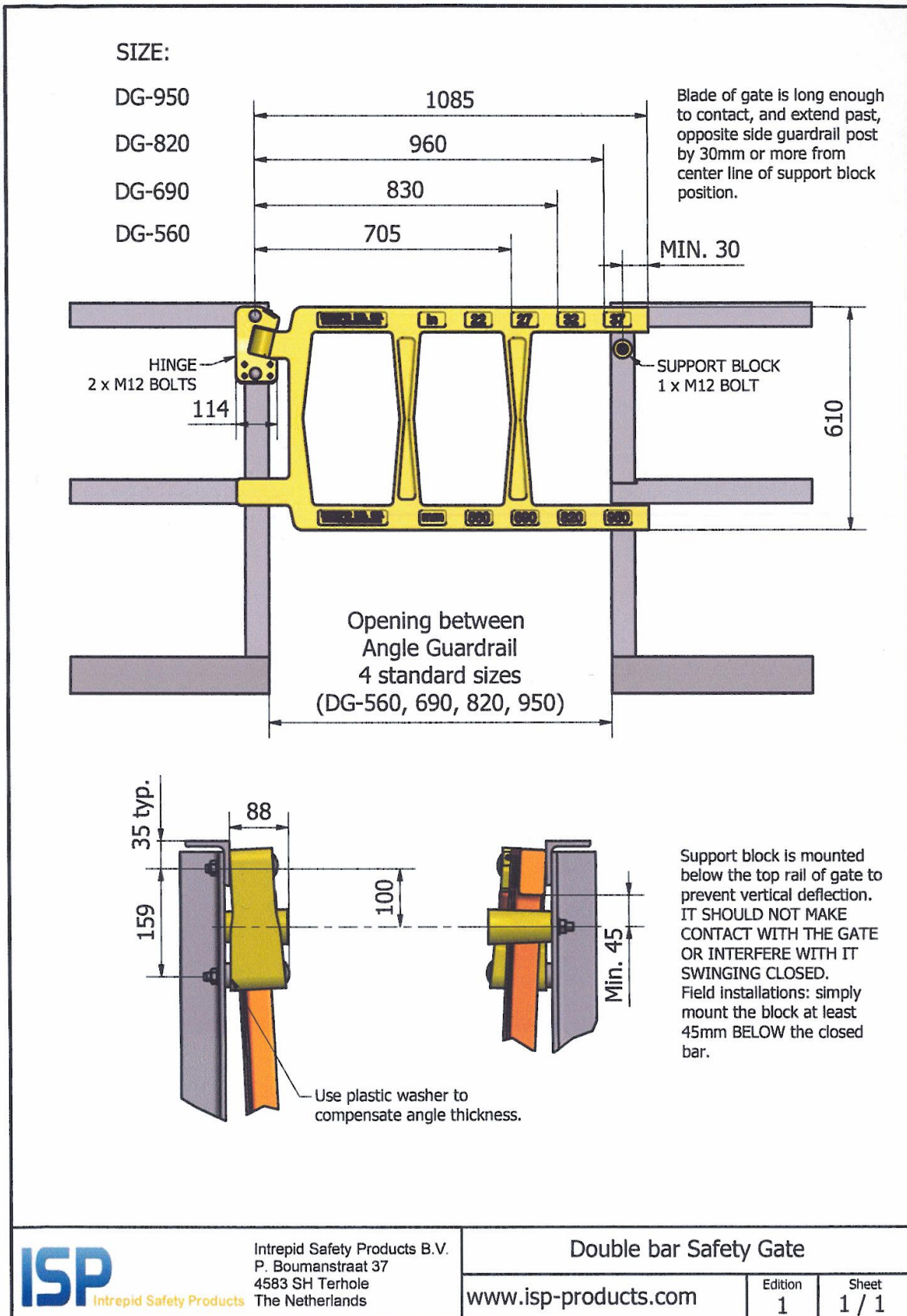


Figure 1, drawing of the double bar gate

7 Annex B, test equipment

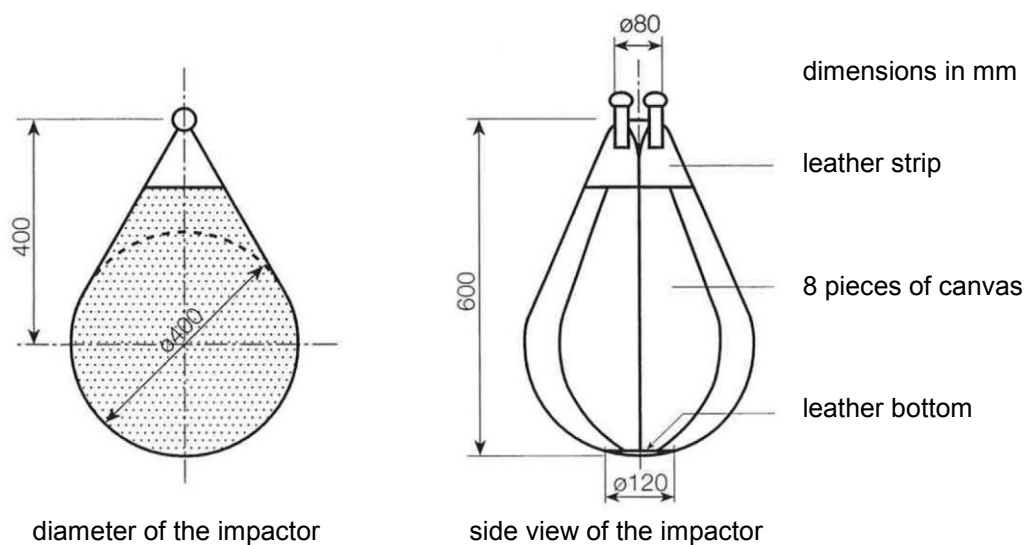


Figure 2, drawings of the impactor

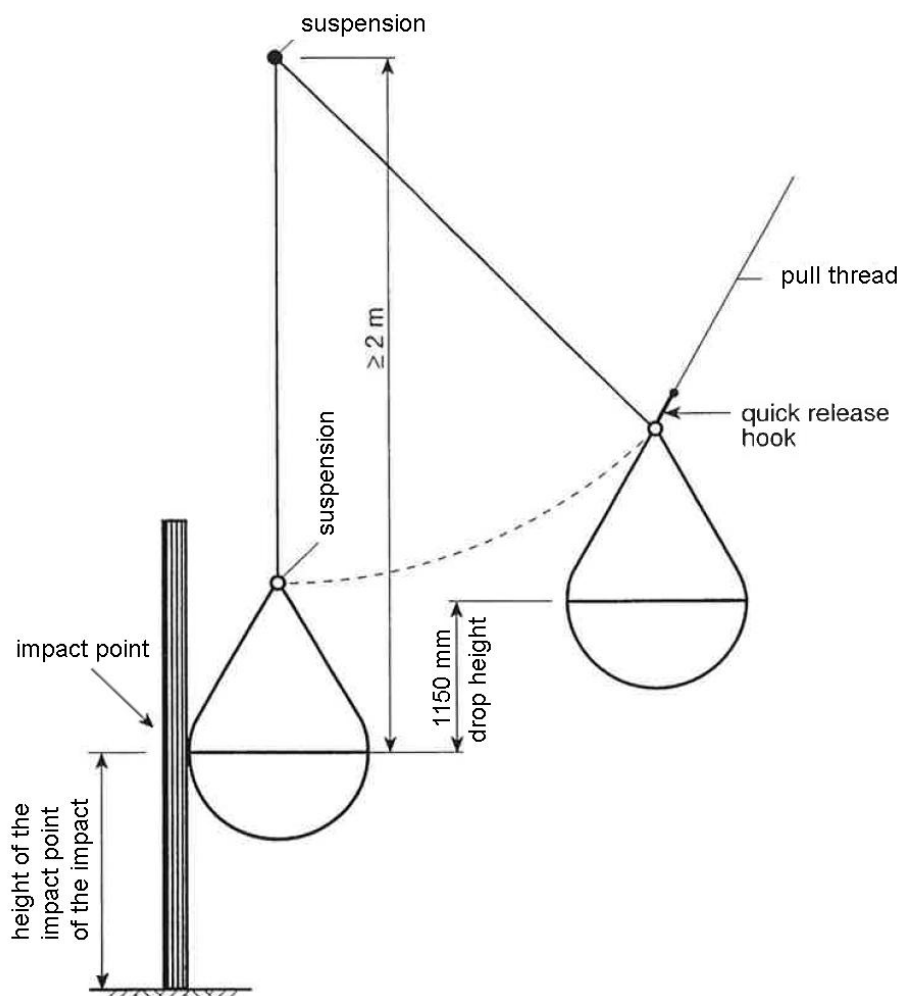


Figure 3, overview of the pendulum impact test

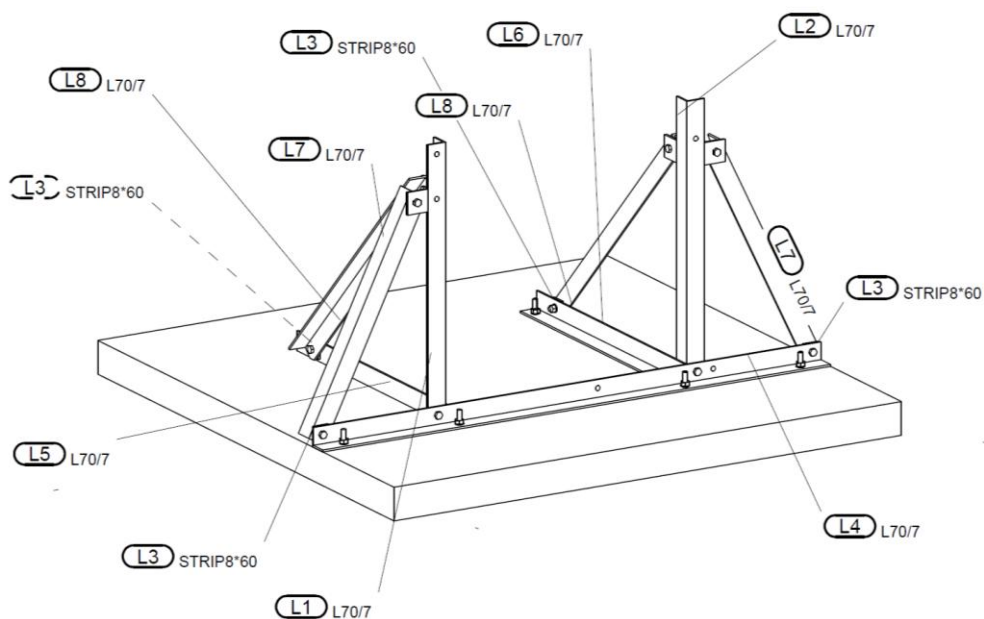


Figure 4, overview of test specimen fixation



Photo 1, overview of impactor, frame, test specimen, measurement of width between L2's (95 cm)

8 Annex C, Adapter for pipes

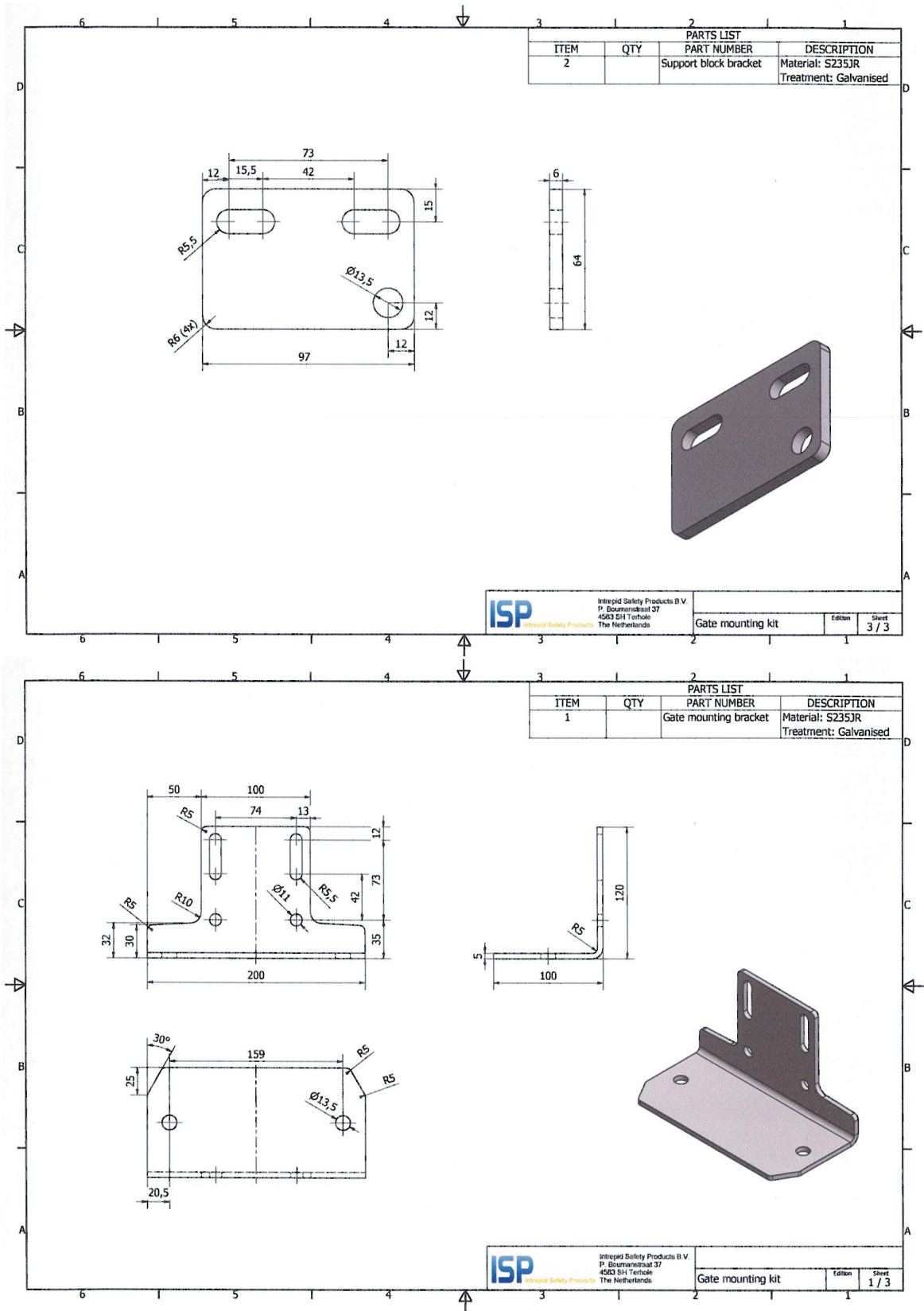
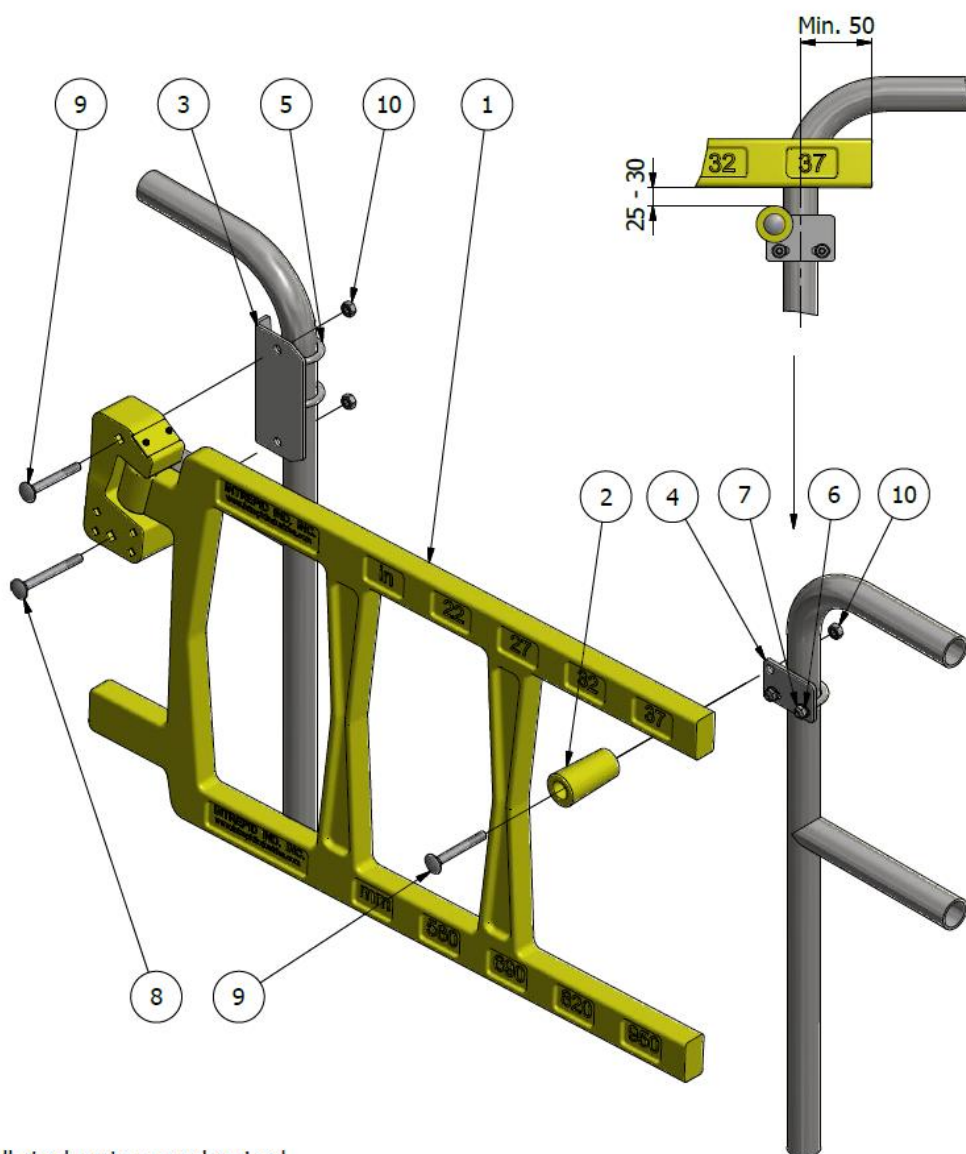


Figure 5 and 6, drawings for adapter of mounting bracket for pipes



All steel parts are galvanized

Figure 7, drawing of the double bar gate on pipe assembly

End of this report.