Italia

# TEST REPORT
## *BOZZA RAPPORTO DI PROVA*

# COMPARASION PERFORMANCE TESTS MECHANICAL ON TOOLS CONTAINERS
## *CONFRONTO PRESTAZIONI PROVE MECCANICHE SU CONTENITORI PORTA ATTREZZI*

**Revision no. 00 Date: 2016-05-03**

**Customer *(Richiedente):***

- ~~Dept~~./Firm *(Ente/Società):* SMARTY S.r.l
- Mr./~~Mrs~~ *(Sig./Sig.ra.):* Massimo CENTINARO
- Address *(Indirizzo):* Viale Risorgimento,7 – 10092 Beinasco (TO)

| Test Request Form no.:<br>*Modulo Richiesta Prova n.:* | Test Report sent to:<br>*Rapporto inviato a:* |
|---|---|
| MEC16081.00 | Massimo CENTINARO |

| Name and Signature of the test engineer:<br>*Nome e Firma esecutore prova:* | Name and Signature of the Technical reviewer:<br>*Nome e Firma del Revisore tecnico:* |
|---|---|
| Andrea ROTUNDO Andrea Rotundo | Gianpaolo MENSA |

| Date of test samples receipt:<br>*Data ricevimento campioni:* | Date of test execution:<br>*Data esecuzione prove:* |
|---|---|
| 2016-04-08 | From 2016-04-29 to 2016-05-03 |

| Site of test execution (if different from the address in the footer):<br>*Località esecuzione prove (se diversa dal piè pagina):* | Witness to the test:<br>*Presenti alle prove:* |
|---|---|
| | |

The test results contained in this Test report relate to the tested samples only.
*I risultati del presente rapporto di prova si riferiscono esclusivamente al campione sottoposto a prova.*

The integral reproduction of the present Test report is allowed; the partial reproduction must be authorized in writing by the Lab.
*E' ammessa la riproduzione integrale del presente Rapporto di prova da parte del Richiedente; la riproduzione parziale dev'essere autorizzata per iscritto dal Laboratorio.*



Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy

Italia

## 1 TEST SETUP
*SETUP DI PROVA*

### 1.1 SAMPLE IDENTIFICATION
*IDENTIFICAZIONE CAMPIONE*

**1.1.1 Product/material subjected to test:** Tools containers made up of plastic.
*Prodotto/materiale sottoposto a prova:*

**1.1.2 Description:** Drawer tool carrier with wheels.
*Descrizione:*

**1.1.3 Level (Series product, prototype, etc.):** Series
*Livello (Prodotto di serie, prototipo, ecc.):*

**1.1.4 Part number:** Not available
*Codice prodotto:*

**1.1.5 Serial number:** SSC1-SSC2-SSC3.
*N° Matricola:*

**1.1.6 Sample identification code:** C1611000 /C1611001
*Codice identificativo del campione:*

### 1.2 AUXILIARY DEVICES
*DISPOSITIVI AUSILIARI*

None

### 1.3 TEST CONFIGURATION
*CONFIGURAZIONE DI PROVA*

Not Operating

### 1.4 DIAGNOSTIC SYSTEM
*SISTEMA DIAGNOSTICO*

According to Customer requirement.



Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy

Italia

## 2 TEST LIST
*ELENCO DELLE PROVE*

| Test Description | Reference document | Standardized | Differencies |
|---|---|---|---|
| **2.1 STATIC NOMINAL LOAD TEST**<br>*PROVA STATICA DI CARICO NOMINALE* | Client Procedure | No | No |
| **2.2 TENSILE TEST ON HANDLES**<br>*PROVA DI TRAZIONE SU MANIGLIE* | Client Procedure | No | No |
| **2.3 TENSILE TEST ON CLAMPING HOOKS**<br>*PROVA DI TRAZIONE SUI GANCI DI SERRAGGIO* | Client Procedure | No | No |



Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy

## 3 TEST EQUIPMENT USED
*APPARECCHIATURE UTILIZZATE*

| Description | Manufacturer | Model | Serial no./ID | Used in test n.: |
|---|---|---|---|---|
| Strong cage | 3T Pro.Tec | - | GAB_215 | 2.1,2.2 and 2.3 |
| Load Cell | N.B.C Elettronica | SX | 15.17401/CEL_218 | 2.1,2.2 and 2.3 |

## 4 ENVIRONMENTAL CONDITIONS
*CONDIZIONI AMBIENTALI*

**4.1 ROOM TEMPERATURE** 25°C ± 2,3 °C
*TEMPERATURA AMBIENTE*

**4.2 RELATIVE HUMIDITY** 36 % ± 7 %
*UMIDITA' RELATIVA*



Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy

Italia

## 5 MEASUREMENT UNCERTAINTY
*INCERTEZZA DI MISURA*

Measurement uncertainties was estimated as expanded uncertainty obtained multiplying the standard uncertainty by the coverage factor k corresponding to a confidence level of about 95%. Declared uncertainties are obtained with factor k=2 except if otherwise specified.

| Measurement | Expanded uncertainty | Found in test n.: |
|---|---|---|
| Force | ± 2 % | 2.1; 2.2; 2.3 |
| Temperature | ± 0,8 °C | 2.1; 2.2; 2.3 |

## 6 SAMPLING PLAN
*PIANO DI CAMPIONAMENTO*

Italia

## 7 TEST AND/OR MEASUREMENT RESULTS
*RISULTATI DELLE PROVE E/O MISURE*

### 7.1 STATIC NOMINAL LOAD TEST
*PROVA STATICA DI CARICO NOMINALE*

The data on the label of the products under test shows a nominal static load applicable of 100 Kg.
The test consists in to apply a static force of 100 kg for 60 seconds on the sample.

#### 7.1.1 TEST OBJECTIVE
*SCOPO DELLA PROVA*

To evaluate the resistance of the products under mechanical stress.

#### 7.1.2 TEST RESULTS
*RISULTATI DI PROVA*

| Sample | Applied force | Verdict |
|---|---|---|
| BLUE | 100 Kg | **PASS** |

**PASS** for both containers : There are not deformations that compromise the functional use of the product. See pictures on §9 of this report.



Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy

## 7.2 TENSILE TEST ON HANDLES

*PROVA DI TRAZIONE SULLE MANIGLIE.*

The data on the label of the products under test shows a nominal force of traction on handles of 80 kg. The test consists in to apply a force of traction of 80 kg for 60 seconds on the handles.

### 7.2.1 TEST OBJECTIVE

*SCOPO DELLA PROVA*

To evaluate the resistance of the handles under mechanical force of traction.

### 7.2.2 TEST RESULTS

*RISULTATI DI PROVA*

| Sample | Applied force | Verdict |
|---|---|---|
| BLUE | 80 Kg | **PASS** |

**PASS** for both containers : There are not deformations that compromise the functional use of the product. See pictures on §9 of this report.



Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy

## 7.3 TENSILE TEST ON CLAMPING HOOKS

*PROVA DI TRAZIONE SUI GANCI DI SERRAGGIO.*

The test consists in to apply a force of traction of 80 kg for 60 seconds on the clamping hooks used for locking the different boxes of tool case.

### 7.3.1 TEST OBJECTIVE

*SCOPO DELLA PROVA*

To evaluate the resistance of the clamping hooks under mechanical force of traction.

### 7.3.2 TEST RESULTS

*RISULTATI DI PROVA*

| Clamping hooks under test | Blue sample |
|---|---|
| Between first and second box | **PASS** |
| Between second and third box | **PASS** |
| Between wheels and box | **PASS** |

**PASS** : There are not deformations that compromise the functional use of the product.



Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy

Italia

## 8 REMARKS

*NOTE*



Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy

Italia

# 9 APPENDIX
*APPENDICE*

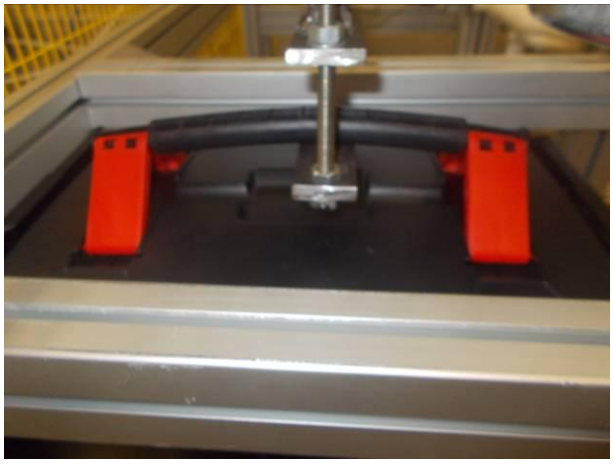
## 9.1 PHOTO DOCUMENTATION
*DOCUMENTAZIONE FOTOGRAFICA*

**2.1 STATIC LOAD TEST - 100 KG**




**2.2 TENSILE TEST ON HANDLES – 80 KGf**



### 2.3 TENSILE TEST ON CLAMPING HOOKS – FIRST AND SECOND BOX – 80 KGf





Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

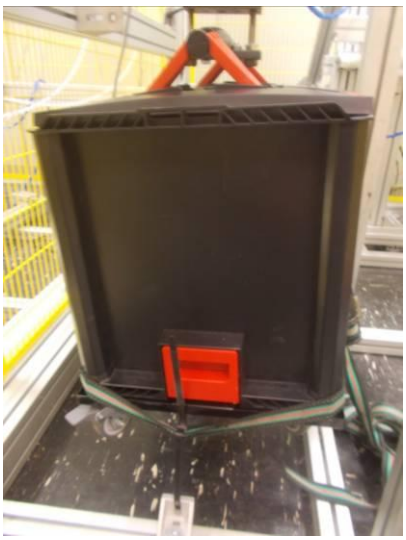
TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy

**2.3 TENSILE TEST ON CLAMPING HOOKS – SECOND AND THIRD BOX – 80 KGf**



**2.3 TENSILE TEST ON CLAMPING HOOKS – BOX AND WHEELS – 80 KGf**







Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy

Italia

## 9.2 ATTACHMENTS

*ALLEGATI*

None.



Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy

Italia

## 10 SUMMARY
*SOMMARIO*


**1 TEST SETUP 2**
1.1 SAMPLE IDENTIFICATION 2
1.2 AUXILIARY DEVICES 2
1.3 TEST CONFIGURATION 2
1.4 DIAGNOSTIC SYSTEM 2

**2 TEST LIST 3**
2.1 STATIC NOMINAL LOAD TEST 3
2.2 TENSILE TEST ON HANDLES 3
2.3 TENSILE TEST ON CLAMPING HOOKS 3

**3 TEST EQUIPMENT USED 4**

**4 ENVIRONMENTAL CONDITIONS 4**
4.1 ROOM TEMPERATURE 4
4.2 RELATIVE HUMIDITY 4

**5 MEASUREMENT UNCERTAINTY 5**

**6 SAMPLING PLAN 5**

**7 TEST AND/OR MEASUREMENT RESULTS 6**
7.1 STATIC NOMINAL LOAD TEST 6
7.2 TENSILE TEST ON HANDLES 7
7.3 TENSILE TEST ON CLAMPING HOOKS 8

**8 REMARKS 9**

**9 APPENDIX 10**
9.1 PHOTO DOCUMENTATION 10
9.2 ATTACHMENTS 13

**10 SUMMARY 14**





Phone: +39 0125 636911
Fax: +39 0125 636999
Andrea.rotundo@tuv.it

TÜV Italia SRL
Divisione PS-CPS/COM
Via Montalenghe 8
I-10010 Scarmagno TO Italy