

DIN EN ISO 23308-1:2025-11 (E)

Energy efficiency of industrial trucks - Test methods - Part 1: General (ISO 23308-1:2025)

| Contents | | Page |
|--|--|-------------|
| Foreword | | iv |
| Introduction | | v |
| 1 Scope | | 1 |
| 2 Normative references | | 2 |
| 3 Terms and definitions | | 2 |
| 4 Test conditions | | 3 |
| 4.1 General..... | | 3 |
| 4.2 Test equipment..... | | 3 |
| 4.2.1 Test area..... | | 3 |
| 4.2.2 Test track..... | | 3 |
| 4.2.3 Test load and / or towing capacity..... | | 3 |
| 4.3 Truck conditions..... | | 4 |
| 4.4 Environmental conditions..... | | 4 |
| 4.5 Truck maintenance..... | | 4 |
| 4.6 Battery condition..... | | 5 |
| 5 Measurement procedure | | 5 |
| 5.1 General..... | | 5 |
| 5.2 Operating sequence..... | | 5 |
| 5.3 Electric trucks..... | | 5 |
| 5.3.1 General..... | | 5 |
| 5.3.2 Truck measurement..... | | 6 |
| 5.3.3 Battery efficiency..... | | 6 |
| 5.3.4 Charger efficiency..... | | 7 |
| 5.4 Internal combustion (IC) trucks..... | | 7 |
| 5.5 Hybrid trucks..... | | 8 |
| 5.6 Measurement accuracy..... | | 8 |
| 5.7 Calculation..... | | 8 |
| 6 Documentation | | 8 |
| 6.1 Test report..... | | 8 |
| 6.2 Declaration..... | | 9 |
| 6.2.1 Truck energy consumption..... | | 9 |
| 6.2.2 Battery efficiency..... | | 9 |
| 6.2.3 Charger efficiency..... | | 9 |
| Annex A (normative) Determination of battery efficiency by using the synthetic discharge cycle | | 10 |
| Annex B (normative) Simplified procedure to calculate the battery and charging efficiency for lead-acid batteries | | 15 |
| Annex C (informative) Calculation of the carbon dioxide equivalent | | 17 |
| Bibliography | | 20 |