

# AIM Product Introduction



The AIM™ Mould System is a product of:

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## Preface

The "AIM Product Introduction" is prepared to introduce you the AIM™ Mould System and to inform you about the relationship between ISO, CAMPUS® and Axxicon Moulds Eindhoven BV.

## History

In the past, property values issued by polymer producers were hard to compare. A lot of different measuring methods (standardised at national or international level) were used, resulting in a large number of test variants. Besides that there were no conditions regarding the manufacturing of test specimens.

Four big German raw materials suppliers took the first step towards solving this problem. They realised that comparability of property values can only be achieved if international accepted standards are used for:

- Manufacturing of test specimens (like mould design and injection moulding parameters);
- Testing of specimens (obtaining property values);
- Reporting of test results.

## ISO

In 1987 these four big German raw material suppliers reached an agreement to characterise their plastics just using a small number of informative, basic characteristic values that were to be measured on the basis of standardised methods and uniform test specimens. At the same time they reached an agreement on a uniform injection mould for the manufacturing of test specimens; the ISO 294 standard was born (ISO – International Organisation for Standardisation).

This uniform mould is more than a simple mould with cavities based on the right specimen geometry. It is a quick-change mould system, built in accordance with very strict regulations, in which the 6 ISO defined test specimens, including the so-called "Multi-Purpose", can be manufactured by means of exchangeable product forming inserts.

These developments started in Western Europe, and are now spreading all over the world. Not only European companies changed their national standard for ISO, but also the US and Asian industry moves over. Although most American companies use ASTM, the big industries, like the automotive, see the benefits of these ISO standards, and they are now pushing their plastic suppliers to test according ISO. Besides that, standards like ASTM and JIS are being harmonised with ISO.

## CAMPUS®

Parallel to this they developed a unique material database, called CAMPUS® (Computer Aided Material Pre-selection by Uniform Standards). This database only contains property values of test specimens **manufactured, tested and reported** in accordance with ISO standards. These property values (single-point data in accordance with ISO 10350 and multi-point data in accordance with ISO 11403-1, ISO 11403-2 and ISO 11403-3) are supplied by world-wide licensees. A special merge program (MCBase from the company M-Base GmbH in Aachen, Germany) enables users to compare materials of different suppliers easily.

® CAMPUS® is a registered trademark of CWFG, Frankfurt am MAIN, Germany  
TM AIM is a trademark used by Axxicon Moulds Eindhoven BV, the Netherlands

## AIM Mould System

As a reaction to the ISO & CAMPUS® developments Axxicon Moulds Eindhoven BV started to manufacture the AIM Mould System. AIM stands for Axxicon ISO Manufactured. The AIM Mould System is a quick-change mould system developed in accordance with the latest ISO standards and moreover suitable for other standards like ASTM, BS, JIS or SAC. With the AIM Mould System you can obtain data for or compare your data with CAMPUS®, the plastics database. The first AIM Mould System was sold in 1989 and since continuously improved and updated in accordance with the latest ISO standards.



AIM Mould System (horizontal version)

Now, after more than 15 years, the AIM Mould System is used by leading polymer producers (GE Plastics, BAYER, BASF, DuPont, DOW) as well as compounders (LNP Engineering Plastics), OEMs (TOYOTA), moulders, test institutes and universities world-wide (over 30 countries).

## Advantages of the AIM Mould System

- |                  |                                                                                                                                                                                  |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Easy to use:     | - Easy installation of mould base on almost every moulding machine                                                                                                               |
|                  | - Horizontal insert exchange in seconds, due to ergonomic grip and lightweight                                                                                                   |
| Many standards:  | - ISO standards                                                                                                                                                                  |
|                  | - Other industrial standards like ASTM, BS, JIS and SAC                                                                                                                          |
|                  | - Company standards                                                                                                                                                              |
| Any polymer:     | - Due to excellent choice of steel types and hardening process, any polymer can be injection moulded. In case of abrasive or aggressive materials special coatings are available |
| Any temperature: | - The AIM Mould System can be tailored for use up to 200°C mould temperature (materials melt temperature can be much higher!)                                                    |
| Performance:     | - Manufacturing mould bases, mirror plates and ISO inserts in large series, results in the smallest standard deviation in property values                                        |

### Standardisation

- Designed according ISO
- Testing according ISO and other standards
- Allows low-cost change to ISO
- Obtaining data for CAMPUS®

### Time & money

- Faster development
- Greater productivity
- Cost effectiveness
- Lower tooling costs
- Faster set-up
- Convenient storage
- Minimum purging
- Easier maintenance & repair
- Lower material costs
- Increased productivity

### Quality

- More rigorous, exact testing
- Quick comparison of plastics
- Consistent product performance
- Higher product quality

### Flexibility

- Flexible and safe operation
- Exchange with other plants/customers
- Special specimens according your wish
- Easy, flexible expansion of tools
- Enables intermediate testing
- Instant production change-over
- Maximum versatility
- Short production cycles possible

### Construction

- Quick change system
- Changing convenience (side loaded)
- Cooling/heating automatically connected
- Corrosion resistant steel types used
- Pins and bushes for excellent alignment
- Fitting almost every moulding machine

### What means Axxicon Moulds Eindhoven BV to me?

Axxicon Moulds Eindhoven BV is a part of Axxicon Mould Technology. Axxicon Mould Technology consists of two production facilities in Europe and Sales & Services offices in Hong Kong and Los Angeles. With over 55 years of experience and 80 employees, Axxicon Moulds Eindhoven BV has a leading position in manufacturing.

All articles manufactured by Axxicon Moulds Eindhoven BV are complying with the Quality Assurance system of Axxicon Moulds Eindhoven BV. The by Axxicon Moulds Eindhoven BV handled Quality Assurance system, and its execution, apply to NEN-EN-ISO 9001 (2000) and is certified by Lloyd's Register Quality Assurance

### Advantages / benefits of Axxicon Moulds Eindhoven BV

How many mould makers know anything about internationally accepted testing standards and their effect on mould making? How many mould makers would advise you not to use so called 'family moulds'. Their time for studying the different standards would already cause a lot of engineering costs, where we offer a standardised mould 'off the shelf'.

But we do not only sell moulds. We do more. On request, we can provide "Door To Door" delivery, installation & training, a maintenance kit and spare-parts. Installation is also beneficial to the warranty terms and in Europe it might mean that you do not have extra delivery costs, because in that case, our engineer can take the mould with him.

### Experience

- Axxicon has over 55 years mould making experience and over 15 years experience with the AIM Mould System

### Up-to-date ISO specimens

- Due to our close relationship with members of the ISO and CAMPUS<sup>®</sup> committees, we are well informed with the latest developments (before they are even published)

### "Off shelf" delivery

- Mould bases, mirror plates and standard ISO inserts are made in large series, tested and kept on stock, which enables us to satisfy you with a short delivery time

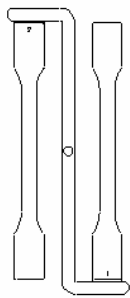
### Service and "after sales"

- Technical information on the AIM Mould System, ISO and CAMPUS<sup>®</sup> is available
- The AIM Mould System is provided with an Instruction Manual for installation, operation and maintenance
- For mirror plate and insert exchanging purposes we provide you with heat protecting gloves
- The AIM Mould System can be provided with Installation & Training (including instructions on maintenance and Injection moulding)
- The AIM Mould System can be provided with a Maintenance kit + Spare-parts

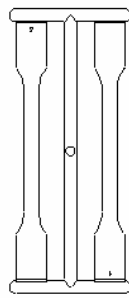
### Test the AIM Mould System

Axxicon Moulds Eindhoven BV invites you to visit our "Mould Test Centre" and to look at the versatility of the AIM Mould System. If you call us for an appointment and send us your polymer, we will convince you of the unique performance of our mould system and the excellent quality of your future test specimens.

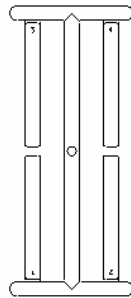
SAMPLE OVERVIEW



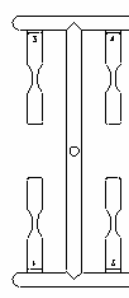
ISO A



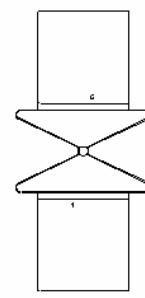
ISO A + Weldline



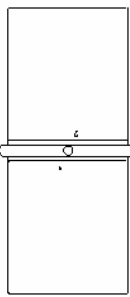
ISO B



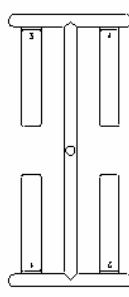
ISO C



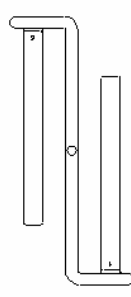
ISO D



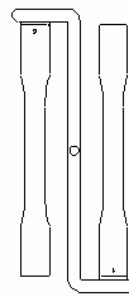
ISO F



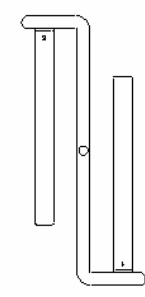
ASTM D256 Izod



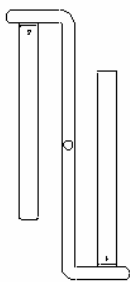
ASTM D6110 Charpy



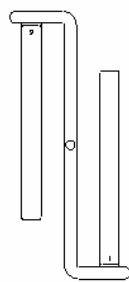
ASTM D638 type I Tensile



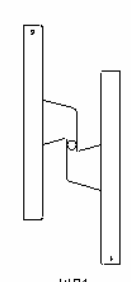
ASTM D648 HDT



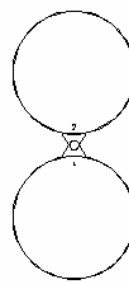
ASTM D790 Flexural



UL94



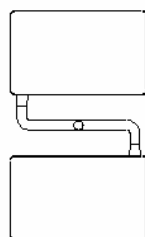
UL94 "Spectral"



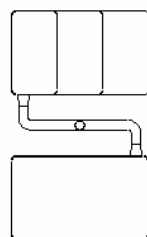
Disc



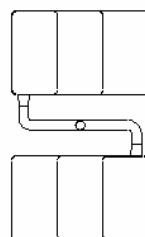
Spiral Flow "Avxicon"



Colour Plaque



Colour Plaque & Step Chip



Step Chip

## Satisfied "AIM-users" all over the world. Among them:

**A**

A. Schulman  
 ACLO Compounders  
 Act Research  
 Adolf-Kolping-Schule  
 Advanced Elastomer Systems  
 Aimplas  
 Akita Prefectural Ind. Tech. Center  
 AKZO  
 Albemarle  
 Albis Corporation  
 Alcan Chemicals  
 Ampacet  
 Armines (École des Mines)  
 Asahi Optical Corporation  
 Asahi Thermofil  
 Atofina Chemicals + Research  
 Auto Network (Sumitomo Wiring)

**B**

Bakelite AG  
 Basell Poliolefine  
 Basell SDK Sunrise  
 BASF  
 Bayer MaterialScience  
 Becker Group Europe  
 Berstorff  
 B.M. S.A. Sociedad Unipersonal  
 Borealis  
 Boston Scientific Corporation  
 BP Chemicals  
 Brüggeman Chemical  
 BP Amoco Chemicals  
 Braskem Triunfo  
 BTicino

**C**

C2P Germany  
 Cabot Plastics  
 Capelle Pigments  
 Certech  
 Chem-Trend  
 Chevron Phillips Chemicals  
 China Petrochemical  
 Chisso Petrochemical Corporation  
 Ciba Specialty Chemicals  
 Clariant  
 Crompton Vinyl Additives

**D**

DAF Trucks  
 Daicel Polymers  
 Dalian Zhaoke Industries  
 Degussa  
 Denso Corporation  
 Diethelm  
 Domo PPC  
 DOW Chemical  
 DSM Engineering Plastics  
 DuPont  
 DuPont Dow Elastomers L.L.C.  
 DuPont Toray  
 Dynasol Elastomeros

**E**

Eastman Company  
 Ecole des Mines de Douai  
 Eldra Kunststoff technik  
 Engineering Compounding Plastics  
 Enichem  
 Ensiacet

EP Compounding  
 Essilor  
 ETA  
 European Owens Corning  
 ExxonMobil Chemical Company

**F**

Fachhochschule Pforzheim, Reutlingen  
 Fachhochschule für Kunststofftechnik  
 Fact  
 Faurecia  
 Ferromatic Millacron  
 Formosa Plastics Corporation  
 Fraunhofer Institut  
 Frisetta Polymer

**G**

GE Plastics  
 Gebroeders Cappelle  
 Gemü  
 Gentex Optics  
 Georg Menshen  
 Gessmann  
 Gharda Chemicals  
 Grand Polymer Corporation  
 Great Lakes Chemical  
 Grossfillex  
 Hydro Polymers

**H**

Haldia Petrochemicals  
 Heraplast  
 Hitachi Chemical  
 Hoffmann & Voss Industriekunststoffe  
 Huntsman Polyurethanes  
 Honeywell International  
 Hycail  
 Hydro Polymers

**I**

ICI  
 Idemitsu Petrochemical  
 Indian Petrochemicals  
 Inno-Comp  
 Innova  
 Innovene  
 Institut für Polymerforschung  
 Institute Université Technique  
 ISPA  
 Isuzu Motors

**J**

Japan Chemical Innovation Institute  
 Japan Polychem Corporation  
 Japan Polyethylene Corporation  
 Japan Polyolefine  
 Japan Polypropylen Corporation  
 JBP  
 J&A Plastics  
 JGP Perrite  
 Johnson Controls

**K**

Kennan Industrial Research Institute  
 Koito Manufacturing  
 Kraton  
 Krauss Maffei  
 Kunststoff Institut Lüdenscheid  
 Kunststoffwerke Leinefeld

**L**

Laboratoire National D'Essais (LNE)  
 Laboratorio di Impresa  
 Lanxess  
 Lanzhou Petrochem  
 Lehmann & Voss  
 Lenor Plastics Service  
 Leuna-Miramid  
 LG-DOW Chemical  
 Lindauer Dornier  
 LNP Engineering Plastics  
 London Metropolitan University  
 Luzenac

**M**

Macroplast  
 Matsushita Electric Works  
 Millenium Inorganic Chemicals  
 Mitsubishi Chemical Corporation  
 Mitsubishi Engineering Plastics  
 Mitsubishi Gas Chemical  
 Mitsubishi Motor Corporation  
 Miyama Kasei Corporation  
 Monsanto  
 Montell SDK Sunrise  
 Multibase  
 Multibras

**N**

Nanhai  
 Nektar Therapeutics  
 Netafim  
 Nippon Unicar Company Limited  
 Nissan Motor Corporation  
 Nord Color  
 NOVA Chemicals  
 Novo Nordisk  
 Noyvallesina Engineering  
 Nylon Corporation of America

**O**

OPP Oman  
 OPP Petroquímica  
 Otsuka Chemical

**P**

Pacific Industrial Corporation  
 PalPlast  
 Peguform  
 Petrobras Energia  
 Petrochina  
 Petronas Research & Scientific  
 Petroquímica Cuyo  
 Peugeot Citroen  
 Polymer Chemie  
 Phillips  
 Plastoplan  
 Polyamid 2000  
 PolyOne  
 P.P.G. Industries  
 Premix  
 PTS Compound Produktions

**R**

RadiciNovacips  
 Raychem  
 Reliance Industries  
 Rehau  
 Repol  
 Rhodia Polyamide  
 Rhodia Recherches  
 Rio Polimeros

**S**

Sabic  
Saier  
Sanyo IK Color  
SC Concern Stiroil  
Schneider Electric  
Schwan Stabilo  
Secco  
SG Magnets  
SGL Technik  
Shigeru  
Singapore Polytechnic  
Sinopec  
Spohn  
SOLA Optical  
Solvay Advanced Polymers  
Suiryo Plastics  
Sumika Chemical Analysis Services  
Sumitomo Chemical Corporation  
SunAromer Corporation  
Supreme Petrochem  
Suzuki Motor Corporation  
Syarikat Daya Usaha

**T**

Talc de Luzenac  
Takagi Seiko  
Taylor Made Adidas Golf  
TechnoPolymer Corporation  
TecoPolimer  
Tekno Polimer  
Ter Hell Plastic  
Tiszai Vegyi Kombinát  
Thai Polyacetal  
Thai Polycarbonate  
The Polyolefin Company  
TNO Plastics & Rubber Institute  
Tokai Rika Denki  
Tokuyama Corporation  
Toray Industries  
Total Petrochemicals  
Toyoda Gosei Corporation  
Toyota Motor Corporation  
Toyota Tsusho Corporation  
Tsubakuro Chemical

**U**

UBE Engineering Plastics  
UBE Industries  
Ueno Fine Chemicals  
Unitika Corporation  
University of Bayreuth, Eindhoven,  
Groningen, Hamburg, Strasbourg, Twente

**V**

Victor International Plastics  
Victorinox  
VTT Chemical Technology  
Vygon

**W**

Witcom Engineering Plastics

**Y**

Yangzi Petrochemical Company  
Yanshan Petrochem  
Yazaki Parts  
YKK Corporation

**Z**

Zeon Corporation  
ZF Boge Elastmetall

**Countries where we delivered the  
AIM Mould System to:**

Argentina	Japan
Australia	Korea
Belgium	Malaysia
Brazil	Mexico
Canada	The Netherlands
China	Norway
Denmark	Oman
Finland	Philippines
France	Scotland
Germany	Singapore
Great Britain	Spain
Hong Kong	Switzerland
Hungary	Thailand
India	Turkey
Indonesia	Ukraine
Israel	USA
Italy	Vietnam