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## Flexible Conduits and Fittings

Non metallic and metallic systems

**HellermannTyton**



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**Moving the market takes more than good ideas.**


Developing the product solutions for the future, requires visionary thinking and the passion to turn ideas into reality. When visions become functional products, innovations are generated that benefit our customers.

We create the conditions for this by employing motivated people who are committed to working as a team. When only the best solutions will do, you need dedicated professionals with expert knowledge.

The resulting product solutions not only shape the market but also develop it.

**We are able to offer product solutions before our customers know they need them.**

We maintain good relationships with our customers and also keep a close eye on the latest market developments. This allows us to recognise trends affecting trade and industry at an early stage. And enables us to remain a step ahead of customer requirements at all times.



To truly excel, you need  
to keep improving all the time

*Our corporate Philosophy*

**Meeting high expectations calls for ongoing development.**

As well as paying particular attention to communicating with our customers and knowledge of the market, we invest heavily in research and development. To ensure that we can support our customers into the future by offering custom product solutions, we continually optimise our technical and logistical processes.

**At your service wherever – and whenever – you need us.**

What use are the best product solutions if they are not available to local markets in a timely way? HellermannTyton's motto is therefore „Think global, act local“. For us, this not only means responding to the needs of local markets – we also have a presence there for the benefit of our customers.

Employees on the ground allow us to cater for cultural, market-specific and linguistic factors effectively. In addition, our customers have access to a worldwide distribution network. This adds value that makes us one of the leading providers for trade and industry.

Whenever you need us ...

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With our vast experience and practically unlimited technical capabilities we are confident of being able to help you find a solution. Remember, we are a service provider and not just a supplier.

**Give us a call! Here are your contacts for enquiries and orders**

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## Industry and Application Overview

HellermannTyton Helaguard conduits and fittings can be used in a wide range of industries and applications. Wherever cable protection is needed, HellermannTyton can provide the right solution.

### Machinery and Automation

Mechanical strength, flexibility, abrasion and fatigue resistance as well as resistance to oils and chemicals are typical requirements of machine building. With its wide range of conduits and fittings, HellermannTyton can offer solutions for both static and dynamic applications in a variety of demanding environments.

### Rail

Rail applications require not only technically advanced products with outstanding fire protection properties and long service life, but also high IP ratings, pull-off strength, low weight and corrosion resistance. HellermannTyton tests its HelaGuard and HelaGuard Steel ranges to the most current European rail specifications.

### Defence

Applications in the defence sector demand that critical systems are protected reliably, even under the most severe conditions. Resistance to shock, vibration and impact are imperative. To protect against magnetic interference, HellermannTyton offers conduits that meet the strict standards of EMC. HellermannTyton also offers UNEF type fittings for military style connectors.

### Off-Shore

Products for off-shore industries are exposed to the most extreme conditions, including wind, water and salt-spray. In the ship-building industry, high operating temperatures, vibration, abrasion and flame resistance are leading factors in the choice of the right cable protection solution. HellermannTyton can supply the conduits and fittings best suited to harsh marine environments.

### Commercial Buildings

HellermannTyton offers a wide range of conduits for protecting cables for applications both inside and outside buildings. Systems that are quick and easy to install are essential. At the same time, safety is paramount. In addition to fire resistance and low toxicity, IP rating, resistance to vandalism, UV resistance and EMC screening are all important aspects.

### Bespoke Solutions

HellermannTyton can design the right solution for your application. We possess the skills and knowledge to develop and manufacture new and unique products to meet your individual needs.

### Data Cabling

The leading factors in data cabling containment are mechanical protection, water ingress protection, climate and temperature and EMC, but also vandalism. HellermannTyton offers plastic and metallic conduits and fittings to address the needs of data cabling.







# HelaGuard Non-Metallic Conduits

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13	<b>HG-SW</b> PA6 corrugated, standard weight	IP66, IP67, IP68, IP69k	75	40	45
14	<b>HG-LW</b> PA6 corrugated, light weight	IP66, IP67, IP68, IP69k	60	30	40
15	<b>HG-HW</b> PA6 corrugated, heavy weight	IP66, IP67, IP68, IP69k	120	70	55
16	<b>HG-FR</b> Flame retardant PA6 corrugated, standard weight	IP66, IP67, IP68, IP69k	75	40	45
17	<b>HG-HI</b> PA12 corrugated, standard weight	IP66, IP67, IP68, IP69k	45	30	35
18	<b>HG-DC</b> PA6 corrugated, double slit	IP40	60	15	90
	<b>PCO *</b> PA6 corrugated, large diameter	IP40, IP65			
36	<b>SC</b> galvanised steel	IP40	350	120	45
37	<b>SSC</b> stainless steel	IP40	400	170	45
41	<b>PCS</b> galvanised steel, PVC coated	IP54, IP65	350	120	45
42	<b>NCS</b> galvanised steel, PA6 coated	IP54, IP65	350	120	45
43	<b>LFHCS</b> galvanised steel, LFH coated	IP54, IP65	350	120	45
49	<b>LTS</b> galvanised steel, PVC coated, liquid-tight	IP68	400	130	65
50	<b>LTSH</b> galvanised steel, thermoplastic rubber, liquid-tight	IP68	400	130	65
51	<b>LTSUL</b> galvanised steel, PVC coated, liquid-tight, UL-listed	IP68	500	160	90
55	<b>PCSB</b> galvanised steel, PVC coated, galvanised steel overbraid	IP54, IP65	350	120, 300	45
59	<b>SCSB</b> galvanised steel, galvanised steel overbraid	IP40	350	120	45
	<b>LTSS *</b> stainless steel, PVC coated, liquid-tight	IP68	400	130	65
	<b>PSC *</b> PVC spiral reinforced	IP65	60	25	35
	<b>LSC *</b> smooth, PVC spiral reinforced	IP67, IP68	120	70	70

\* available upon request

High fatigue life	Temperature range	Flexible	Low fire hazard	Halogen free	Self-extinguishing	High abrasion resistance	High UV resistance (black)
yes	-40°C to +120°C	yes	yes	yes	yes	yes	yes
yes	-40°C to +120°C	yes		yes	yes		
	-40°C to +120°C	yes	yes	yes	yes	yes	yes
	-40°C to +120°C	yes	yes	yes	yes	yes	yes
yes	-50°C to +110°C	yes		yes	yes		yes
	-40°C to +120°C			yes	yes	yes	
	-40°C to +120°C	yes		yes	yes		
	-100°C to +300°C	yes	yes	yes	yes	yes	
	-100°C to +400°C	yes	yes	yes	yes	yes	yes
yes	-15°C to +70°C	yes			yes		
	-40°C to +120°C	yes		yes	yes	yes	
	-25°C to +90°C	yes	yes	yes	yes		
	-20°C to +105°C	yes			yes		yes
	-45°C to +135°C	yes		yes	yes		yes
	-15°C to +75°C	yes			yes		yes
	-15°C to +70°C	yes			yes	yes	
	-100°C to +300°C	yes	yes	yes	yes		
	-20°C to +105°C	yes			yes		yes
	-5°C to +70°C	yes			yes		yes
	-5°C to +70°C	yes			yes		yes

## Mounting and Removing HelaGuard Non-Metallic Fittings

HelaGuard plastic fittings are mounted simply, quickly and very securely. They offer exceptionally high pull-off strength and are vibration as well as tamper resistant. They can be removed with a screw driver. HelaGuard plastic fittings can be used again and again.

To mount and remove HelaGuard plastic fittings, follow these simple instructions.



1. If the fitting has been used before, be sure that the slit points to the „on” position. To assemble the fitting, push it on to the end of the conduit as far as possible without forcing it and twist it slightly. The fitting is now securely locked.



3. Move the handle of the screwdriver towards the „off” position. The capnut will rotate slightly. The locking mechanism is now released.



5. Manually rotate the capnut further towards the „off position” as far as possible.



2. To remove the fitting, insert a small screw driver into the slit.



4. Remove the screwdriver.



6. Simply remove the fitting from the end of the conduit.

To re-use HelaGuard plastic fittings, simply turn the capnut back to the „on” position and mount it on to the end of the conduit.

### HelaGuard HG-SW PA6 Standard

Standard weight corrugated flexible conduit for industrial applications.

#### Features and Benefits

- Standard weight
- Highly flexible and high fatigue life
- Abrasion resistant
- High impact strength, recovers if crushed
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus
- Low smoke and low toxicity
- Colour: black (UV resistant); grey (RAL 7031) on request

#### Application

Machine building, plant and construction, control panels, public buildings.



HelaGuard PA6 Standard for industrial applications.

**Other materials available on request. Please contact us!**

#### Material Data

Material	<b>Polyamide 6 (PA6)</b>
Operating Temperature	<b>-40 °C to +120 °C</b>
Operating Temperature Moving	<b>-20 °C to +100 °C</b>
Flammability	<b>UL94 V2</b>



#### Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-11100	<b>HG-SW10</b>	10	10.0	6.3	15	19	50	Black (BK)
166-11101	<b>HG-SW11</b>	11	11.5	8.2	20	22	50	Black (BK)
166-11102	<b>HG-SW13</b>	13	13.0	9.8	25	28	50	Black (BK)
166-11103	<b>HG-SW16</b>	16	15.8	11.8	35	38	50	Black (BK)
166-11104	<b>HG-SW21</b>	21	21.2	16.7	45	60	50	Black (BK)
166-11112	<b>HG-SW28</b>	28	28.5	22.8	50	100	50	Black (BK)
166-11118	<b>HG-SW34</b>	34	34.5	28.1	60	135	50	Black (BK)
166-11113	<b>HG-SW42</b>	42	42.5	35.5	70	165	25	Black (BK)
166-11114	<b>HG-SW54</b>	54	54.5	47.2	80	235	25	Black (BK)
166-11109	<b>HG-SW67</b>	67	67.2	56.3	130	365	10	Black (BK)

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

Other reel lengths available on request.



Please note: for product specific approvals, please contact HellermannTyton.

**HelaGuard HG-LW PA6 Light**

Light weight corrugated flexible conduit.

**Features and Benefits**

- Light weight
- Small bending radius
- Highly flexible and high fatigue life
- High impact strength, recovers if crushed
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus
- Colour: black; grey (RAL 7031) on request

**Application**

Machine building, plant construction, control panels and public buildings, wherever lower mechanical protection is required.



*HelaGuard PA6 Light is very flexibel and used in moving applications.*

**Other materials  
available on request.  
Please contact us!**

**Material Data**

Material	<b>Polyamide 6 (PA6)</b>
Operating Temperature	<b>-40 °C to +120 °C</b>
Operating Temperature Moving	<b>-20 °C to +100 °C</b>
Flammability	<b>self-extinguishing according to EN IEC 61386</b>

**Technical Table**

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-11200	<b>HG-LW10</b>	10	10.0	6.5	15	18	50	Black (BK)
166-11201	<b>HG-LW11</b>	11	11.5	8.4	20	22	50	Black (BK)
166-11202	<b>HG-LW13</b>	13	13.0	9.8	25	24	50	Black (BK)
166-11203	<b>HG-LW16</b>	16	15.8	11.8	35	36	50	Black (BK)
166-11204	<b>HG-LW21</b>	21	21.2	16.7	40	56	50	Black (BK)
166-11205	<b>HG-LW28</b>	28	28.5	21.7	45	90	50	Black (BK)
166-11206	<b>HG-LW34</b>	34	34.5	28.1	55	110	50	Black (BK)
166-11207	<b>HG-LW42</b>	42	42.5	35.5	65	150	25	Black (BK)
166-11208	<b>HG-LW54</b>	54	54.5	47.2	80	200	25	Black (BK)
166-11209	<b>HG-LW67</b>	67	67.2	56.5	110	310	25	Black (BK)

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

Other reel lengths available on request.



Please note: for product specific approvals, please contact HellermannTyton.

### HelaGuard HG-HW PA6 Heavy

Heavy weight corrugated flexible conduit for high mechanical demands.

#### Features and Benefits

- Heavy weight
- High mechanical strength
- Abrasion resistant
- High impact strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus
- Colour: black (UV resistant)

#### Application

Heavy-duty machine building, plant construction and public buildings, wherever high mechanical strength is required.



When high mechanical protection is needed: HelaGuard PA6 Heavy.

**Other materials  
available on request.  
Please contact us!**

#### Material Data

Material	<b>Polyamide 6 (PA6)</b>
Operating Temperature	<b>-40 °C to +120 °C</b>
Flammability	<b>UL94 V2</b>



#### Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-11302	<b>HG-HW13</b>	13	13.0	9.0	35	37	50	Black (BK)
166-11303	<b>HG-HW16</b>	16	15.8	11.5	45	48	50	Black (BK)
166-11304	<b>HG-HW21</b>	21	21.2	15.5	55	80	50	Black (BK)
166-11305	<b>HG-HW28</b>	28	28.5	21.3	60	130	50	Black (BK)
166-11306	<b>HG-HW34</b>	34	34.5	26.9	70	170	25	Black (BK)
166-11307	<b>HG-HW42</b>	42	42.5	34.6	80	200	25	Black (BK)
166-11308	<b>HG-HW54</b>	54	54.5	46.0	90	270	25	Black (BK)

All dimensions in mm. Subject to technical changes.

Other reel lengths available on request.



Please note: for product specific approvals, please contact HellermannTyton.

### HelaGuard HG-FR PA6 Flame Retardant

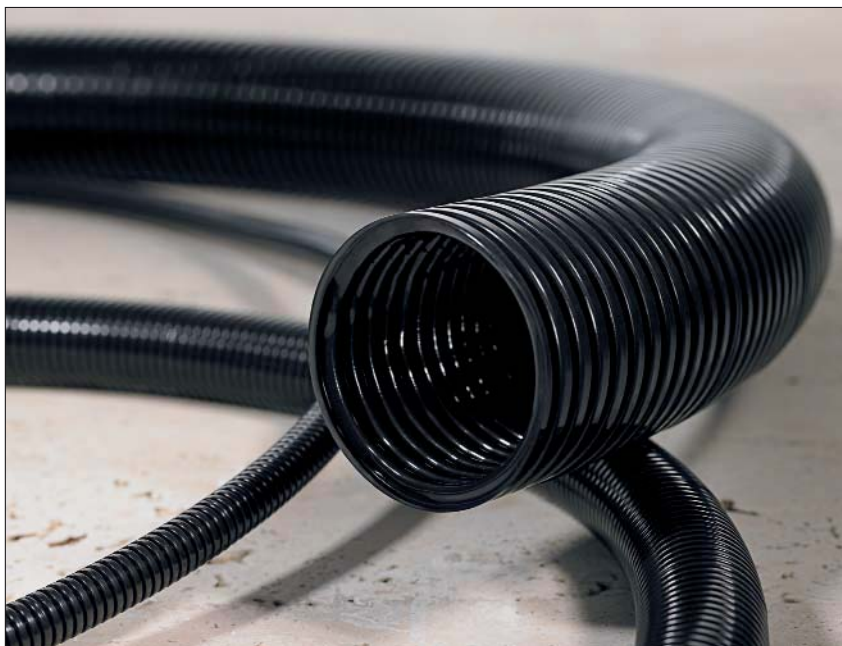
Where high fire protection is required.

#### Features and Benefits

- Standard weight
- Highly flame retardant (UL94 V0)
- Low smoke, low toxicity
- Highly flexible and high fatigue life
- Abrasion resistant
- High impact strength, recovers if crushed
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus
- Colour: black (UV resistant).

#### Application

Railway vehicles, railway tunnels, underground stations and public buildings, where high fire protection is required



Public buildings often require HelaGuard PA6 Flame Retardant due to its high fire protection properties.

**Other materials  
available on request.  
Please contact us!**

#### Material Data

Material	<b>Polyamide 6, Flame retardant (PA6-FR)</b>
Operating Temperature	<b>-40 °C to +120 °C</b>
Operating Temperature Moving	<b>-20 °C to +100 °C</b>
Flammability	<b>UL94 V0</b>



#### Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-11400	<b>HG-FR10</b>	10	10.0	6.3	15	19	50	Black (BK)
166-11401	<b>HG-FR13</b>	13	13.0	9.8	25	28	50	Black (BK)
166-11402	<b>HG-FR16</b>	16	15.8	11.8	35	38	50	Black (BK)
166-11403	<b>HG-FR21</b>	21	21.2	16.7	45	60	50	Black (BK)
166-11404	<b>HG-FR28</b>	28	28.5	21.7	50	100	50	Black (BK)
166-11405	<b>HG-FR34</b>	34	34.5	28.1	60	135	50	Black (BK)
166-11406	<b>HG-FR42</b>	42	42.5	35.5	70	165	25	Black (BK)
166-11407	<b>HG-FR54</b>	54	54.5	47.2	80	235	25	Black (BK)

All dimensions in mm. Subject to technical changes.

Other reel lengths available on request.



Please note: for product specific approvals, please contact HellermannTyton.



## HelaGuard HG-HI PA12 Standard

### Features and Benefits

Standard weight PA12 corrugated flexible conduit for applications with continual movement and bending.

- Standard weight
- Excellent fatigue life
- Recovers form if crushed
- Good mechanical properties at low temperatures
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus
- Colour: black (UV resistant)

### Application

Robots, rail, machine building, plant construction and wherever continual movement and bending are requirements.



*HelaGuard PA12 is ideal for robotics.*

**Other materials  
available on request.  
Please contact us!**

#### Material Data

Material	<b>Polyamide 12 (PA12)</b>
Operating Temperature	<b>-50 °C to +110 °C</b>
Flammability	<b>self-extinguishing according to EN IEC 61386</b>



#### Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-11501	<b>HG-HI13</b>	13	13	9.8	25	26	50	Black (BK)
166-11502	<b>HG-HI16</b>	16	15.8	11.8	30	35	50	Black (BK)
166-11503	<b>HG-HI21</b>	21	21.2	16.7	35	55	50	Black (BK)
166-11504	<b>HG-HI28</b>	28	28.5	21.7	45	92	50	Black (BK)
166-11505	<b>HG-HI34</b>	34	34.5	28.1	55	120	25	Black (BK)
166-11506	<b>HG-HI42</b>	42	42.5	35.5	60	160	25	Black (BK)
166-11507	<b>HG-HI54</b>	54	54.5	47.2	70	220	25	Black (BK)

All dimensions in mm. Subject to technical changes.

Other reel lengths available on request.



Please note: for product specific approvals, please contact HellermannTyton.

**HelaGuard HG-DC Double Slit**

Double slit corrugated conduit for retrofitting.

**Features and Benefits**

- Can be opened and closed repeatedly
- Cables can be inserted laterally
- Abrasion resistant
- Free of halogen, sulphur and phosphorus
- Colour: black (UV resistant)

**Application**

Control panels, machine building, plant construction and wherever retrofitting is a requirement.



*HelaGuard HG-DC double slit conduit is ideal for retrofitting.*

**Other materials  
available on request.  
Please contact us!**

**Material Data**

Material	<b>Polyamide 6 (PA6)</b>
Operating Temperature	<b>-40 °C to +110 °C</b>
Flammability	<b>UL94 V2</b>

**Technical Table**

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-11800	<b>HG-DC11</b>	11	11.5	6.7	45	23	50	Black (BK)
166-11801	<b>HG-DC13</b>	13	13.0	7.9	55	37	50	Black (BK)
166-11802	<b>HG-DC16</b>	16	15.8	10.5	60	44	50	Black (BK)
166-11803	<b>HG-DC21</b>	21	21.2	13.9	90	63	50	Black (BK)
166-11804	<b>HG-DC28</b>	28	28.5	20.5	105	94	50	Black (BK)
166-11805	<b>HG-DC34</b>	34	34.5	27.0	150	118	25	Black (BK)
166-11806	<b>HG-DC42</b>	42	42.5	34.8	170	193	25	Black (BK)
166-11807	<b>HG-DC54</b>	54	54.5	45.3	170	263	25	Black (BK)

All dimensions in mm. Subject to technical changes.

Other reel lengths available on request.



Please note: for product specific approvals, please contact HellermannTyton.

**HelaGuard****HG-S Straight, IP66**

Straight external thread.

**Features and Benefits**

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus
- Metric threads supplied with locknuts



HelaGuard HG-S Straight, IP66.

**Fittings with UNEF  
and NPT threads  
available on request.  
Please contact us!**

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-21000	HG10-S-M12	10	M12	–	10
166-21020	HG10-S-M16	10	M16	–	10
166-21010	HG10-S-PG7	10	–	PG7	10
166-21031	HG10-S-PG9	10	–	PG9	10
166-21021	HG11-S-M12	11	M12	–	10
166-21032	HG11-S-PG7	11	–	PG7	10
166-21022	HG13-S-M12	13	M12	–	10
166-21001	HG13-S-M16	13	M16	–	10
166-21023	HG13-S-M20	13	M20	–	10
166-21033	HG13-S-PG7	13	–	PG7	10
166-21011	HG13-S-PG9	13	–	PG9	10
166-21034	HG13-S-PG11	13	–	PG11	10
166-21002	HG16-S-M16	16	M16	–	10
166-21003	HG16-S-M20	16	M20	–	10
166-21035	HG16-S-PG9	16	–	PG9	10
166-21012	HG16-S-PG11	16	–	PG11	10
166-21013	HG16-S-PG13	16	–	PG13.5	10
166-21036	HG16-S-PG16	16	–	PG16	10
166-21024	HG18-S-M20	18	M20	–	10
166-21037	HG18-S-PG13	18	–	PG13.5	10
166-21038	HG18-S-PG16	18	–	PG16	10
166-21025	HG20-S-M20	20	M20	–	10
166-21004	HG21-S-M20	21	M20	–	10
166-21039	HG21-S-PG13	21	–	PG13.5	10
166-21014	HG21-S-PG16	21	–	PG16	10
166-21040	HG21-S-PG21	21	–	PG21	10
166-21026	HG25-S-M25	25	M25	–	10
166-21005	HG28-S-M25	28	M25	–	10
166-21027	HG28-S-M32	28	M32	–	10
166-21015	HG28-S-PG21	28	–	PG21	10
166-21041	HG28-S-PG29	28	–	PG29	10
166-21006	HG34-S-M32	34	M32	–	10
166-21028	HG34-S-M40	34	M40	–	10
166-21016	HG34-S-PG29	34	–	PG29	10
166-21007	HG42-S-M40	42	M40	–	2
166-21029	HG42-S-M50	42	M50	–	10
166-21017	HG42-S-PG36	42	–	PG36	2
166-21008	HG54-S-M50	54	M50	–	2
166-21030	HG54-S-M63	54	M63	–	10
166-21042	HG54-S-PG42	54	–	PG42	2
166-21018	HG54-S-PG48	54	–	PG48	2
166-21009	HG67-S-M63	67	M63	–	1
166-21019	HG67-S-PG48	67	–	PG48	1

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



Please note: for product specific approvals, please contact HellermannTyton.

## HelaGuard HGL-S Straight, IP68

Straight external thread with conduit seal and washer.

Fulfils IP66, IP67, IP68 and IP69k.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus
- Metric threads supplied with locknuts



HelaGuard HGL-S Straight with conduit seal, IP68.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-21600	HGL13-S-M16	13	M16	–	10
166-21608	HGL13-S-PG9	13	–	PG9	10
166-21601	HGL16-S-M16	16	M16	–	10
166-21602	HGL16-S-M20	16	M20	–	10
166-21623	HGL16-S-PG9	16	–	PG9	10
166-21609	HGL16-S-PG11	16	–	PG11	10
166-21610	HGL16-S-PG13	16	–	PG13.5	10
166-21624	HGL16-S-PG16	16	–	PG16	10
166-21603	HGL21-S-M20	21	M20	–	10
166-21625	HGL21-S-PG13	21	–	PG13.5	10
166-21611	HGL21-S-PG16	21	–	PG16	10
166-21626	HGL21-S-PG21	21	–	PG21	10
166-21604	HGL28-S-M25	28	M25	–	10
166-21619	HGL28-S-M32	28	M32	–	10
166-21612	HGL28-S-PG21	28	–	PG21	10
166-21627	HGL28-S-PG29	28	–	PG29	10
166-21605	HGL34-S-M32	34	M32	–	10
166-21620	HGL34-S-M40	34	M40	–	10
166-21613	HGL34-S-PG29	34	–	PG29	10
166-21606	HGL42-S-M40	42	M40	–	2
166-21621	HGL42-S-M50	42	M50	–	2
166-21614	HGL42-S-PG36	42	–	PG36	2
166-21607	HGL54-S-M50	54	M50	–	2
166-21622	HGL54-S-M63	54	M63	–	2
166-21628	HGL54-S-PG42	54	–	PG42	2
166-21616	HGL54-S-PG48	54	–	PG48	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

**Fittings with UNEF and NPT threads available on request. Please contact us!**

Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



## HelaGuard HG-90 90° Elbow, IP66

90° elbow external thread.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus
- Metric threads supplied with locknuts



HelaGuard HG-90 90° Elbow, IP66.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-22200	HG10-90-M12	10	M12	–	10
166-22210	HG10-90-PG7	10	–	PG7	10
166-22220	HG11-90-M12	11	M12	–	10
166-22201	HG13-90-M16	13	M16	–	10
166-22211	HG13-90-PG9	13	–	PG9	10
166-22202	HG16-90-M16	16	M16	–	10
166-22203	HG16-90-M20	16	M20	–	10
166-22225	HG16-90-PG9	16	–	PG9	10
166-22212	HG16-90-PG11	16	–	PG11	10
166-22213	HG16-90-PG13	16	–	PG13.5	10
166-22226	HG18-90-PG13	18	–	PG13.5	10
166-22221	HG20-90-M20	20	M20	–	10
166-22204	HG21-90-M20	21	M20	–	10
166-22227	HG21-90-PG13	21	–	PG13.5	10
166-22214	HG21-90-PG16	21	–	PG16	10
166-22222	HG25-90-M25	25	M25	–	10
166-22205	HG28-90-M25	28	M25	–	10
166-22215	HG28-90-PG21	28	–	PG21	10
166-22206	HG34-90-M32	34	M32	–	10
166-22216	HG34-90-PG29	34	–	PG29	10
166-22207	HG42-90-M40	42	M40	–	2
166-22223	HG42-90-M50	42	M50	–	10
166-22217	HG42-90-PG36	42	–	PG36	2
166-22208	HG54-90-M50	54	M50	–	2
166-22224	HG54-90-M63	54	M63	–	10
166-22218	HG54-90-PG48	54	–	PG48	2
166-22209	HG67-90-M63	67	M63	–	1
166-22219	HG67-90-PG48	67	–	PG48	1

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

**Fittings with UNEF and NPT threads available on request. Please contact us!**

Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



**HelaGuard****HGL-90 90° Elbow, IP68**

90° elbow, external thread with conduit seal and washer.

Fulfils IP66, IP67, IP68 and IP69k.

**Features and Benefits**

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus
- Metric threads supplied with locknuts



HelaGuard HGL-90 90° Elbow with conduit seal, IP68.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-22800	HGL13-90-M16	13	M16	–	10
166-22808	HGL13-90-PG9	13	–	PG9	10
166-22801	HGL16-90-M16	16	M16	–	10
166-22802	HGL16-90-M20	16	M20	–	10
166-22820	HGL16-90-PG9	16	–	PG9	10
166-22809	HGL16-90-PG11	16	–	PG11	10
166-22810	HGL16-90-PG13	16	–	PG13.5	10
166-22803	HGL21-90-M20	21	M20	–	10
166-22821	HGL21-90-PG13	21	–	PG13.5	10
166-22811	HGL21-90-PG16	21	–	PG16	10
166-22804	HGL28-90-M25	28	M25	–	10
166-22812	HGL28-90-PG21	28	–	PG21	10
166-22805	HGL34-90-M32	34	M32	–	10
166-22813	HGL34-90-PG29	34	–	PG29	10
166-22806	HGL42-90-M40	42	M40	–	2
166-22818	HGL42-90-M50	42	M50	–	2
166-22814	HGL42-90-PG36	42	–	PG36	2
166-22807	HGL54-90-M50	54	M50	–	2
166-22819	HGL54-90-M63	54	M63	–	2
166-22815	HGL54-90-PG48	54	–	PG48	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

**Fittings with UNEF and NPT threads available on request. Please contact us!**

Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



## HelaGuard HG-45 45° Elbow, IP66

45° elbow external thread.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus
- Metric threads supplied with locknuts



HelaGuard HG-45 45° Elbow, IP66.

**Fittings with UNEF  
and NPT threads  
available on request.  
Please contact us!**

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-23400	<b>HG16-45-M20</b>	16	M20	–	10
166-23406	<b>HG16-45-PG13</b>	16	–	PG13	10
166-23401	<b>HG21-45-M20</b>	21	M20	–	10
166-23407	<b>HG21-45-PG13</b>	21	–	PG13.5	10
166-23408	<b>HG21-45-PG16</b>	21	–	PG16	10
166-23402	<b>HG28-45-M25</b>	28	M25	–	10
166-23409	<b>HG28-45-PG21</b>	28	–	PG21	10
166-23403	<b>HG34-45-M32</b>	34	M32	–	10
166-23410	<b>HG34-45-PG29</b>	34	–	PG29	10
166-23404	<b>HG42-45-M50</b>	42	M50	–	2
166-23411	<b>HG42-45-PG36</b>	42	–	PG36	2
166-23405	<b>HG54-45-M50</b>	54	M50	–	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-24000	<b>HGL16-45-M20</b>	16	M20	–	10
166-24006	<b>HGL16-45-PG13</b>	16	–	PG13.5	10
166-24001	<b>HGL21-45-M20</b>	21	M20	–	10
166-24007	<b>HGL21-45-PG13</b>	21	–	PG13.5	10
166-24008	<b>HGL21-45-PG16</b>	21	–	PG16	10
166-24002	<b>HGL28-45-M25</b>	28	M25	–	10
166-24009	<b>HGL28-45-PG21</b>	28	–	PG21	10
166-24003	<b>HGL34-45-M32</b>	34	M32	–	10
166-24010	<b>HGL34-45-PG29</b>	34	–	PG29	10
166-24004	<b>HGL42-45-M50</b>	42	M50	–	2
166-24011	<b>HGL42-45-PG36</b>	42	–	PG36	2
166-24005	<b>HGL54-45-M50</b>	54	M50	–	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



HelaGuard HGL-45 45° Elbow with conduit seal, IP68.



Please note: for product specific approvals, please contact HellermannTyton.

## HelaGuard HG-SM Straight Swivel External Thread, IP66

Straight swivel brass external thread.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HG-SM Straight Swivel External Thread, IP66.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-21300	HG13-SM-M16	13	M16	–	10
166-21309	HG13-SM-PG9	13	–	PG9	10
166-21301	HG16-SM-M16	16	M16	–	10
166-21302	HG16-SM-M20	16	M20	–	10
166-21310	HG16-SM-PG9	16	–	PG9	10
166-21311	HG16-SM-PG11	16	–	PG11	10
166-21303	HG21-SM-M20	21	M20	–	10
166-21312	HG21-SM-PG13	21	–	PG13.5	10
166-21313	HG21-SM-PG16	21	–	PG16	10
166-21304	HG28-SM-M25	28	M25	–	10
166-21314	HG28-SM-PG21	28	–	PG21	10
166-21305	HG34-SM-M32	34	M32	–	10
166-21315	HG34-SM-PG29	34	–	PG29	10
166-21306	HG42-SM-M40	42	M40	–	2
166-21307	HG54-SM-M50	54	M50	–	2
166-21308	HG67-SM-M63	67	M63	–	1

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

Material Data

Material	<b>Polyamide 6.6 (PA66), Nickel Plated Brass (NPB)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



## HelaGuard HGL-SM Straight Swivel External Thread, IP68

Straight swivel brass external thread with conduit seal and washer.

Fulfils IP66, IP67, IP68 and IP69k.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HGL-SM Straight Swivel External Thread with conduit seal, IP68.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-21900	HGL13-SM-M16	13	M16	–	10
166-21909	HGL13-SM-PG9	13	–	PG9	10
166-21901	HGL16-SM-M16	16	M16	–	10
166-21902	HGL16-SM-M20	16	M20	–	10
166-21910	HGL16-SM-PG9	16	–	PG9	10
166-21911	HGL16-SM-PG11	16	–	PG11	10
166-21903	HGL21-SM-M20	21	M20	–	10
166-21912	HGL21-SM-PG13	21	–	PG13.5	10
166-21913	HGL21-SM-PG16	21	–	PG16	10
166-21904	HGL28-SM-M25	28	M25	–	10
166-21914	HGL28-SM-PG21	28	–	PG21	10
166-21905	HGL34-SM-M32	34	M32	–	10
166-21915	HGL34-SM-PG29	34	–	PG29	10
166-21906	HGL42-SM-M40	42	M40	–	2
166-21907	HGL54-SM-M50	54	M50	–	2
166-21908	HGL67-SM-M63	67	M63	–	1

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



Please note: for product specific approvals, please contact HellermannTyton.



## HelaGuard HG-90M 90° Elbow Swivel External Thread, IP66

90° elbow swivel brass external thread.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HG-90M 90° Elbow Swivel External Thread, IP66.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-22500	HG13-90M-M16	13	M16	–	10
166-22509	HG13-90M-PG9	13	–	PG9	10
166-22501	HG16-90M-M16	16	M16	–	10
166-22502	HG16-90M-M20	16	M20	–	10
166-22510	HG16-90M-PG9	16	–	PG9	10
166-22511	HG16-90M-PG11	16	–	PG11	10
166-22503	HG21-90M-M20	21	M20	–	10
166-22512	HG21-90M-PG13	21	–	PG13.5	10
166-22513	HG21-90M-PG16	21	–	PG16	10
166-22504	HG28-90M-M25	28	M25	–	10
166-22514	HG28-90M-PG21	28	–	PG21	10
166-22505	HG34-90M-M32	34	M32	–	10
166-22515	HG34-90M-PG29	34	–	PG29	10
166-22506	HG42-90M-M40	42	M40	–	2
166-22507	HG54-90M-M50	54	M50	–	2
166-22508	HG67-90M-M63	67	M63	–	1

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

Material Data

Material	<b>Polyamide 6.6 (PA66), Nickel Plated Brass (NPB)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



## HelaGuard HGL-90M 90° Elbow Swivel External Thread, IP68

90° elbow swivel brass external thread with conduit seal and washer.

Fulfills IP66, IP67, IP68 and IP69k.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HGL-90M 90° Elbow Swivel External Thread with conduit seal, IP68.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-23100	HGL13-90M-M16	13	M16	–	10
166-23108	HGL13-90M-PG9	13	–	PG9	10
166-23101	HGL16-90M-M16	16	M16	–	10
166-23102	HGL16-90M-M20	16	M20	–	10
166-23109	HGL16-90M-PG9	16	–	PG9	10
166-23110	HGL16-90M-PG11	16	–	PG11	10
166-23103	HGL21-90M-M20	21	M20	–	10
166-23111	HGL21-90M-PG13	21	–	PG13.5	10
166-23112	HGL21-90M-PG16	21	–	PG16	10
166-23104	HGL28-90M-M25	28	M25	–	10
166-23113	HGL28-90M-PG21	28	–	PG21	10
166-23105	HGL34-90M-M32	34	M32	–	10
166-23114	HGL34-90M-PG29	34	–	PG29	10
166-23106	HGL42-90M-M40	42	M40	–	2
166-23107	HGL54-90M-M50	54	M50	–	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



Please note: for product specific approvals, please contact HellermannTyton.

### HelaGuard HG-45M 45° Elbow Swivel External Thread, IP66

45° elbow swivel brass external thread.

#### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HG-45M 45° Elbow Swivel External Thread, IP66.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-23700	HG16-45M-M20	16	M20	–	10
166-23706	HG16-45M-PG9	16	–	PG9	10
166-23707	HG16-45M-PG11	16	–	PG11	10
166-23701	HG21-45M-M20	21	M20	–	10
166-23708	HG21-45M-PG13	21	–	PG13.5	10
166-23709	HG21-45M-PG16	21	–	PG16	10
166-23702	HG28-45M-M25	28	M25	–	10
166-23710	HG28-45M-PG21	28	–	PG21	10
166-23703	HG34-45M-M32	34	M32	–	10
166-23711	HG34-45M-PG29	34	–	PG29	10
166-23704	HG42-45M-M50	42	M50	–	2
166-23705	HG54-45M-M50	54	M50	–	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

Material Data

Material	<b>Polyamide 6.6 (PA66), Nickel Plated Brass (NPB)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



### HelaGuard HGL-45M 45° Elbow Swivel External Thread, IP68

45° elbow swivel brass external thread with conduit seal and washer.

Fulfils IP66, IP67, IP68 and IP69k.

#### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HGL-45M 45° Elbow Swivel External Thread, IP68.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-24300	HGL16-45M-M20	16	M20	–	10
166-24306	HGL16-45M-PG9	16	–	PG9	10
166-24307	HGL16-45M-PG11	16	–	PG11	10
166-24301	HGL21-45M-M20	21	M20	–	10
166-24308	HGL21-45M-PG13	21	–	PG13.5	10
166-24309	HGL21-45M-PG16	21	–	PG16	10
166-24302	HGL28-45M-M25	28	M25	–	10
166-24310	HGL28-45M-PG21	28	–	PG21	10
166-24303	HGL34-45M-M32	34	M32	–	10
166-24311	HGL34-45M-PG29	34	–	PG29	10
166-24304	HGL42-45M-M50	42	M50	–	2
166-24305	HGL54-45M-M50	54	M50	–	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



Please note: for product specific approvals, please contact HellermannTyton.

## HelaGuard HG-SF Straight Swivel Internal Thread, IP66

Straight swivel brass internal thread.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HG-SF Straight Swivel Internal Thread, IP66.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-21400	HG13-SF-M16	13	M16	–	10
166-21408	HG13-SF-PG9	13	–	PG9	10
166-21401	HG16-SF-M16	16	M16	–	10
166-21402	HG16-SF-M20	16	M20	–	10
166-21409	HG16-SF-PG11	16	–	PG11	10
166-21410	HG16-SF-PG16	16	–	PG16	10
166-21403	HG21-SF-M20	21	M20	–	10
166-21411	HG21-SF-PG16	21	–	PG16	10
166-21404	HG28-SF-M25	28	M25	–	10
166-21412	HG28-SF-PG21	28	–	PG21	10
166-21405	HG34-SF-M32	34	M32	–	10
166-21413	HG34-SF-PG29	34	–	PG29	10
166-21406	HG42-SF-M40	42	M40	–	2
166-21407	HG54-SF-M50	54	M50	–	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

Material Data

Material	Polyamide 6.6 (PA66), Nickel Plated Brass (NPB)
Colour	Black (BK)
Operating Temperature	-50 °C to +135 °C
Flammability	UL94 V2



## HelaGuard HGL-SF Straight Swivel Internal Thread, IP68

Straight swivel brass internal thread with conduit seal and washer.

Fulfils IP66, IP67, IP68 and IP69k.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HGL-SF Straight Swivel Internal Thread, IP68.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-22000	HGL13-SF-M16	13	M16	–	10
166-22009	HGL13-SF-PG9	13	–	PG9	10
166-22001	HGL16-SF-M16	16	M16	–	10
166-22002	HGL16-SF-M20	16	M20	–	10
166-22010	HGL16-SF-PG9	16	–	PG9	10
166-22011	HGL16-SF-PG11	16	–	PG11	10
166-22003	HGL21-SF-M20	21	M20	–	10
166-22012	HGL21-SF-PG13	21	–	PG13.5	10
166-22013	HGL21-SF-PG16	21	–	PG16	10
166-22004	HGL28-SF-M25	28	M25	–	10
166-22014	HGL28-SF-PG21	28	–	PG21	10
166-22005	HGL34-SF-M32	34	M32	–	10
166-22015	HGL34-SF-PG29	34	–	PG29	10
166-22006	HGL42-SF-M40	42	M40	–	2
166-22007	HGL54-SF-M50	54	M50	–	2
166-22008	HGL67-SF-M63	67	M63	–	1

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



Please note: for product specific approvals, please contact HellermannTyton.

### HelaGuard HG-90F 90° Elbow Swivel Internal Thread, IP66

90° elbow swivel brass internal thread.

#### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HG-90F 90° Elbow Swivel Internal Thread, IP66.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-22600	HG13-90F-M16	13	M16	–	10
166-22608	HG13-90F-PG9	13	–	PG9	10
166-22601	HG16-90F-M16	16	M16	–	10
166-22602	HG16-90F-M20	16	M20	–	10
166-22609	HG16-90F-PG9	16	–	PG9	10
166-22610	HG16-90F-PG11	16	–	PG11	10
166-22603	HG21-90F-M20	21	M20	–	10
166-22614	HG21-90F-PG13	21	–	PG13.5	10
166-22611	HG21-90F-PG16	21	–	PG16	10
166-22604	HG28-90F-M25	28	M25	–	10
166-22612	HG28-90F-PG21	28	–	PG21	10
166-22605	HG34-90F-M32	34	M32	–	10
166-22613	HG34-90F-PG29	34	–	PG29	10
166-22606	HG42-90F-M40	42	M40	–	2
166-22607	HG54-90F-M50	54	M50	–	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

Material Data

Material	<b>Polyamide 6.6 (PA66), Nickel Plated Brass (NPB)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



### HelaGuard HGL-90F 90° Elbow Swivel Internal Thread, IP68

90° elbow swivel brass internal thread with conduit seal and washer.

Fulfils IP66, IP67, IP68 and IP69k.

#### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HGL-90F 90° Elbow Swivel Internal Thread with conduit seal, IP68.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-23200	HGL13-90F-M16	13	M16	–	10
166-23208	HGL13-90F-PG9	13	–	PG9	10
166-23201	HGL16-90F-M16	16	M16	–	10
166-23202	HGL16-90F-M20	16	M20	–	10
166-23209	HGL16-90F-PG9	16	–	PG9	10
166-23210	HGL16-90F-PG11	16	–	PG11	10
166-23203	HGL21-90F-M20	21	M20	–	10
166-23211	HGL21-90F-PG13	21	–	PG13.5	10
166-23212	HGL21-90F-PG16	21	–	PG16	10
166-23204	HGL28-90F-M25	28	M25	–	10
166-23213	HGL28-90F-PG21	28	–	PG21	10
166-23205	HGL34-90F-M32	34	M32	–	10
166-23214	HGL34-90F-PG29	34	–	PG29	10
166-23206	HGL42-90F-M40	42	M40	–	2
166-23207	HGL54-90F-M50	54	M50	–	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



Please note: for product specific approvals, please contact HellermannTyton.

## HelaGuard HG-45F 45° Elbow Swivel Internal Thread, IP66

45° elbow swivel brass internal thread.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HG-45F 45° Elbow Swivel Internal Thread, IP66.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-23800	HG16-45F-M20	16	M20	–	10
166-23806	HG16-45F-PG11	16	–	PG11	10
166-23807	HG16-45F-PG16	16	–	PG16	10
166-23801	HG21-45F-M20	21	M20	–	10
166-23808	HG21-45F-PG16	21	–	PG16	10
166-23802	HG28-45F-M25	28	M25	–	10
166-23809	HG28-45F-PG21	28	–	PG21	10
166-23803	HG34-45F-M32	34	M32	–	10
166-23810	HG34-45F-PG29	34	–	PG29	10
166-23804	HG42-45F-M50	42	M50	–	2
166-23805	HG54-45F-M50	54	M50	–	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

Material Data

Material	<b>Polyamide 6.6 (PA66), Nickel Plated Brass (NPB)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



## HelaGuard HGL-45F 45° Elbow Swivel Internal Thread, IP68

45° elbow swivel brass internal thread with conduit seal and washer.

Fulfils IP66, IP67, IP68 and IP69k.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HGL-45F 45° Elbow Swivel Internal Thread, IP68.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-24400	HGL16-45F-M20	16	M20	–	10
166-24406	HGL16-45F-PG11	16	–	PG11	10
166-24407	HGL16-45F-PG16	16	–	PG16	10
166-24401	HGL21-45F-M20	21	M20	–	10
166-24408	HGL21-45F-PG16	21	–	PG16	10
166-24402	HGL28-45F-M25	28	M25	–	10
166-24409	HGL28-45F-PG21	28	–	PG21	10
166-24403	HGL34-45F-M32	34	M32	–	10
166-24410	HGL34-45F-PG29	34	–	PG29	10
166-24404	HGL42-45F-M50	42	M50	–	2
166-24405	HGL54-45F-M50	54	M50	–	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



Please note: for product specific approvals, please contact HellermannTyton.

### HelaGuard HG-SFL Straight Swivel Flange, IP66

Straight swivel flange.

#### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-21200	<b>HG16-SFL</b>	16	10
166-21201	<b>HG21-SFL</b>	21	10
166-21202	<b>HG28-SFL</b>	28	10
166-21203	<b>HG34-SFL</b>	34	10
166-21204	<b>HG42-SFL</b>	42	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



HelaGuard HG-SFL Straight Swivel Flange, IP66.

Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



### HelaGuard HGL-SFL Straight Swivel Flange, IP68

Straight swivel flange with conduit seal and washer.

Fulfils IP66, IP67, IP68 and IP69k.

#### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-21800	<b>HGL16-SFL</b>	16	10
166-21801	<b>HGL21-SFL</b>	21	10
166-21802	<b>HGL28-SFL</b>	28	10
166-21803	<b>HGL34-SFL</b>	34	10
166-21804	<b>HGL42-SFL</b>	42	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



HelaGuard HGL-SFL Straight Swivel Flange with conduit seal, IP68.



Please note: for product specific approvals, please contact HellermannTyton.

## HelaGuard HG-90FL 90° Elbow Swivel Flange, IP66

90° elbow swivel flange.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-22400	<b>HG16-90FL</b>	16	10
166-22401	<b>HG21-90FL</b>	21	10
166-22402	<b>HG28-90FL</b>	28	10
166-22403	<b>HG34-90FL</b>	34	10
166-22404	<b>HG42-90FL</b>	42	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



HelaGuard HG-90FL 90° Elbow Swivel Flange, IP66.

Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



## HelaGuard HGL-90FL 90° Elbow Swivel Flange, IP68

90° elbow swivel flange with conduit seal and washer.

Fulfils IP66, IP67, IP68 and IP69k.

### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-23000	<b>HGL16-90FL</b>	16	10
166-23001	<b>HGL21-90FL</b>	21	10
166-23002	<b>HGL28-90FL</b>	28	10
166-23003	<b>HGL34-90FL</b>	34	10
166-23004	<b>HGL42-90FL</b>	42	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



HelaGuard HGL-90FL 90° Elbow Swivel Flange, IP68.



Please note: for product specific approvals, please contact HellermannTyton.

### HelaGuard HG-45FL 45° Elbow Swivel Flange, IP66

45° elbow swivel flange.

#### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HG-45FL 45° Elbow Swivel Flange, IP66.

#### Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-23600	<b>HG16-45FL</b>	16	10
166-23601	<b>HG21-45FL</b>	21	10
166-23602	<b>HG28-45FL</b>	28	10
166-23603	<b>HG34-45FL</b>	34	10
166-23604	<b>HG42-45FL</b>	42	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

#### Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



### HelaGuard HGL-45FL 45° Elbow Swivel Flange, IP68

45° elbow swivel flange with conduit seal and washer.

Fulfils IP66, IP67, IP68 and IP69k.

#### Features and Benefits

- One piece, fast fit
- High pull-off strength
- Highly resistant to solvents and oils
- Free of halogen, sulphur and phosphorus



HelaGuard HGL-45FL 45° Elbow Swivel Flange, IP68.

#### Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-24200	<b>HGL16-45FL</b>	16	10
166-24201	<b>HGL21-45FL</b>	21	10
166-24202	<b>HGL28-45FL</b>	28	10
166-24203	<b>HGL34-45FL</b>	34	10
166-24204	<b>HGL42-45FL</b>	42	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



Please note: for product specific approvals, please contact HellermannTyton.



**HelaGuard****HG-T, T-Connector, IP66**

T-connector with inspection lid.

**Features and Benefits**

- Fast fit T-connector
- With inspection lid

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-24800	<b>HG16-T</b>	16	5
166-24801	<b>HG20-T</b>	20	3
166-24802	<b>HG21-T</b>	21	3
166-24803	<b>HG28-T</b>	28	3
166-24804	<b>HG34-T</b>	34	2
166-24805	<b>HG42-T</b>	42	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



HelaGuard HG-T, T-Connector, IP66.

Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>

**HelaGuard****HGL-T, T-Connector, IP68**

T-connector with conduit seals.

Fulfils IP66, IP67, IP68 and IP69k.

**Features and Benefits**

- Fast fit T-connector
- With inspection lid and additional seals

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-24900	<b>HGL16-T</b>	16	5
166-24901	<b>HGL21-T</b>	21	3
166-24902	<b>HGL28-T</b>	28	3
166-24903	<b>HGL34-T</b>	34	2
166-24904	<b>HGL42-T</b>	42	2

All dimensions in mm. Subject to technical changes.

Colour grey available on request.



HelaGuard HGL-T, T-Connector with conduit seals.



Please note: for product specific approvals, please contact HellermannTyton.

## FlexiGuard NS and FlexiGuard Plus

### Features and Benefits

In addition to the HelaGuard conduit range, HellermannTyton also offers the highly flexible FlexiGuard NS and FlexiGuard Plus protective hoses and fittings.

FlexiGuard NS and FlexiGuard Plus are made of plastic-sheathed spring steel wire with a plastic jacket. Due to the spring steel wire, FlexiGuard NS and FlexiGuard Plus are extremely flexible, have very low bending radii, and yet are very compression-resistant and kink-proof.

The jacket of FlexiGuard NS is high grade PVC, which is resistant to alkalis, acids, chemicals, UV and ozone.

The FlexiGuard Plus jacket is made of special premium ester-polyurethane (PU). It offers high tensile strength and is highly resistant to abrasion and tears. It is also very resistant to mineral oils, chemicals, UV and ozone.

FlexiGuard NS and FlexiGuard Plus hoses are supplied in 8 different diameters.

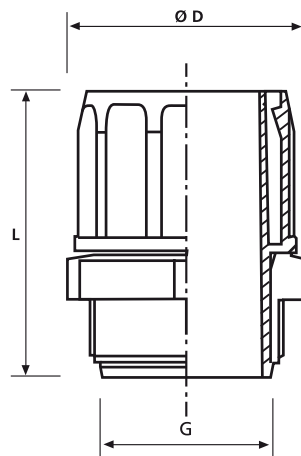
### Fittings

The one-piece FlexiGuard fittings offer a tight hold, even under vibration and tension. They are made of robust polypropylene (PP) and achieve an IP rating of IP54. The fittings are available with both metric and PG threads. There are also fittings equipped with a bracket to fix the fitting securely.

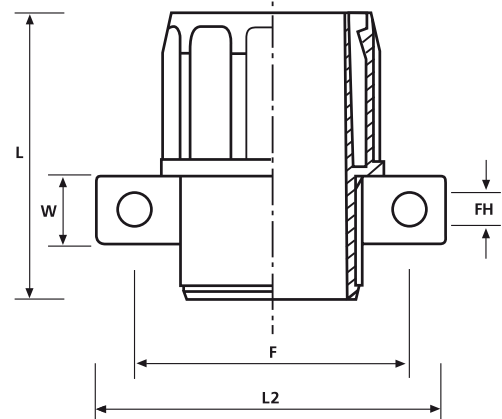
Consult our main HellermannTyton catalogue for more information on our FlexiGuard range of flexible hoses and fittings.



The FlexiGuard product range is very flexible and compression resistant.



NV and TV fittings



UH fitting with bracket.

# HelaGuard Steel Conduits and Fittings

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**HelaGuard****SC Galvanised Steel Conduit**

General purpose flexible steel conduit.

**Features and Benefits**

- High compression strength
- High tensile strength
- High impact strength
- Highly flexible

**Application**

Underfloor wiring in offices data cabling, protection of hydraulic or pneumatic conduits. For high mechanical protection.



HelaGuard SC Galvanised Steel Conduit.

**Material Data**

Material	<b>Galvanised Steel (GS)</b>
Operating Temperature	<b>-50 °C to +300 °C</b>

**Technical Table**

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-30100	<b>SC10</b>	10	9.0	6.8	25	110	50	Metal (ML)
166-30101	<b>SC12</b>	12	13.0	10.2	30	113	50	Metal (ML)
166-30102	<b>SC16</b>	16	16.0	13.0	40	152	25	Metal (ML)
166-30103	<b>SC20</b>	20	20.5	16.9	45	295	25	Metal (ML)
166-30104	<b>SC25</b>	25	25.0	21.1	55	321	25	Metal (ML)
166-30105	<b>SC32</b>	32	32.0	28.1	70	450	25	Metal (ML)
166-30106	<b>SC40</b>	40	42.5	37.6	80	519	25	Metal (ML)
166-30107	<b>SC50</b>	50	53.0	48.4	90	802	25	Metal (ML)
166-30108	<b>SC63</b>	63	62.5	57.5	115	836	10	Metal (ML)
166-30109	<b>SC75</b>	75	77.0	70.0	150	1137	10	Metal (ML)

All dimensions in mm. Subject to technical changes.

Other reel length available on request.

## HelaGuard

### SSC Stainless Steel Conduit

Stainless steel corrosion resistant flexible conduit.

#### Features and Benefits

- High compression strength
- High tensile strength
- High impact strength
- Highly flexible
- Highly rust and corrosion resistant

#### Application

Protection of sensor cables, instrumentation tubing, hydraulic and pneumatic conduits, particularly in corrosive environments. Commonly used in hospitals and clinics.



The HelaGuard SSC stainless steel conduit offers superior mechanical protection in corrosive environments.

#### Material Data

Material	<b>Stainless Steel (SS316)</b>
Operating Temperature	<b>-50 °C to +300 °C</b>



#### Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-30200	<b>SSC10</b>	10	9.0	6.8	25	110	25	Metal (ML)
166-30201	<b>SSC12</b>	12	13.0	10.2	30	126	25	Metal (ML)
166-30202	<b>SSC16</b>	16	16.0	13.0	40	162	25	Metal (ML)
166-30203	<b>SSC20</b>	20	20.5	16.9	45	202	25	Metal (ML)
166-30204	<b>SSC25</b>	25	25.0	21.1	55	300	25	Metal (ML)
166-30205	<b>SSC32</b>	32	32.0	28.1	70	230	25	Metal (ML)
166-30206	<b>SSC40</b>	40	42.5	37.6	80	410	10	Metal (ML)
166-30207	<b>SSC50</b>	50	53.0	48.4	90	516	10	Metal (ML)

All dimensions in mm. Subject to technical changes.

Other reel length available on request.

### HelaGuard SC-FM Fixed External Thread, IP40

Fixed external thread, nickel plated brass.

#### Features and Benefits

- Two part fitting comprising shell and body with external thread
- Can be secured with a locknut



HelaGuard SC-FM Fixed External Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-30300	SC10-FM-M12	10	M12	–	10
166-30311	SC10-FM-PG7	10	–	PG7	10
166-30301	SC12-FM-M16	12	M16	–	10
166-30312	SC12-FM-PG7	12	–	PG7	10
166-30313	SC12-FM-PG9	12	–	PG9	10
166-30302	SC16-FM-M16	16	M16	–	10
166-30303	SC16-FM-M20	16	M20	–	10
166-30314	SC16-FM-PG11	16	–	PG11	10
166-30304	SC20-FM-M20	20	M20	–	10
166-30315	SC20-FM-PG16	20	–	PG16	10
166-30305	SC25-FM-M25	25	M25	–	10
166-30316	SC25-FM-PG21	25	–	PG21	10
166-30306	SC32-FM-M32	32	M32	–	2
166-30317	SC32-FM-PG29	32	–	PG29	2
166-30307	SC40-FM-M40	40	M40	–	2
166-30318	SC40-FM-PG36	40	–	PG36	2
166-30308	SC50-FM-M50	50	M50	–	1
166-30319	SC50-FM-PG42	50	–	PG42	1
166-30320	SC50-FM-PG48	50	–	PG48	1
166-30309	SC63-FM-M63	63	M63	–	1
166-30310	SC75-FM-M75	75	M75	–	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB)
Colour	Metal (ML)
Operating Temperature	-100 °C to +300 °C



### HelaGuard SSC-FM Fixed External Thread, IP40

Fixed external thread, stainless steel (SS316).

#### Features and Benefits

- Two part fitting comprising shell and body with external thread
- Can be secured with a locknut



HelaGuard SSC-FM Fixed External Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Pack Cont.
166-30321	SSC10-FM-M12	10	M12	10
166-30322	SSC12-FM-M16	12	M16	10
166-30323	SSC16-FM-M16	16	M16	10
166-30324	SSC20-FM-M20	20	M20	10
166-30325	SSC25-FM-M25	25	M25	10
166-30326	SSC32-FM-M32	32	M32	2
166-30327	SSC40-FM-M40	40	M40	2
166-30328	SSC50-FM-M50	50	M50	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	Stainless Steel (SS316)
Colour	Metal (ML)
Operating Temperature	-100 °C to +400 °C



## HelaGuard SC-SM Swivel External Thread, IP40

Swivel external thread, nickel plated brass.

### Features and Benefits

- Two part fitting comprising shell and body
- External thread swivels about main body
- Can be secured with a locknut



HelaGuard SC-SM Swivel External Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-30400	SC10-SM-M12	10	M12	–	10
166-30410	SC10-SM-PG7	10	–	PG7	10
166-30401	SC12-SM-M16	12	M16	–	10
166-30411	SC12-SM-PG9	12	–	PG9	10
166-30402	SC16-SM-M16	16	M16	–	10
166-30403	SC16-SM-M20	16	M20	–	10
166-30412	SC16-SM-PG11	16	–	PG11	10
166-30404	SC20-SM-M20	20	M20	–	10
166-30413	SC20-SM-PG13	20	–	PG13.5	10
166-30414	SC20-SM-PG16	20	–	PG16	10
166-30405	SC25-SM-M25	25	M25	–	10
166-30415	SC25-SM-PG21	25	–	PG21	10
166-30406	SC32-SM-M32	32	M32	–	2
166-30416	SC32-SM-PG29	32	–	PG29	2
166-30407	SC40-SM-M40	40	M40	–	2
166-30417	SC40-SM-PG36	40	–	PG36	2
166-30408	SC50-SM-M50	50	M50	–	1
166-30418	SC50-SM-PG42	50	–	PG42	1
166-30409	SC63-SM-M63	63	M63	–	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Nickel Plated Brass (NPB)</b>
Colour	<b>Metal (ML)</b>
Operating Temperature	<b>-100 °C to +300 °C</b>



## HelaGuard SSC-SM Swivel External Thread, IP40

Swivel external thread, stainless steel (SS316).

### Features and Benefits

- Two part fitting comprising shell and body
- External thread swivels about main body
- Can be secured with a locknut



HelaGuard SSC-SM Swivel External Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Pack Cont.
166-30419	SSC10-SM-M12	10	M12	10
166-30420	SSC12-SM-M16	12	M16	10
166-30421	SSC16-SM-M16	16	M16	10
166-30422	SSC20-SM-M20	20	M20	10
166-30423	SSC25-SM-M25	25	M25	10
166-30424	SSC32-SM-M32	32	M32	2

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Stainless Steel (SS316)</b>
Colour	<b>Metal (ML)</b>
Operating Temperature	<b>-100 °C to +400 °C</b>



### HelaGuard SC-PC Plain Hole Connector, IP40

Plain hole connector, nickel plated brass.

#### Features and Benefits

- Two part fitting comprising shell and body without thread
- Body is fitted to the conduit through the opposite side of the entry
- Acts as a locking device
- Provides a smooth entry bush



HelaGuard SC-PC Plain Hole Connector.

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-30500	SC10-PC	10	10
166-30501	SC12-PC	12	10
166-30502	SC16-PC	16	10
166-30503	SC20-PC	20	10
166-30504	SC25-PC	25	10
166-30505	SC32-PC	32	2
166-30506	SC40-PC	40	2
166-30507	SC50-PC	50	1
166-30508	SC63-PC	63	1
166-30509	SC75-PC	75	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB)
Colour	Metal (ML)
Operating Temperature	-100 °C to +300 °C



### HelaGuard SC-FF Fixed Internal Thread, IP40

Fixed internal thread, nickel plated brass.

#### Features and Benefits

- Two part fitting comprising shell and body with internal thread
- Can be used to couple two pieces of conduit together when used with a swivel fitting



HelaGuard SC-FF Fixed Internal Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Pack Cont.
166-30600	SC16-FF-M20	16	M20	10
166-30601	SC20-FF-M20	20	M20	10
166-30602	SC25-FF-M25	25	M25	10
166-30603	SC32-FF-M32	32	M32	2

All dimensions in mm. Subject to technical changes.



## HelaGuard PCS Galvanised Steel Conduit, PVC Coating

Flexible galvanised steel conduit with pvc coating.

### Features and Benefits

- High compression strength
- High tensile strength
- High impact strength
- Highly flexible
- Good resistance to alkalis and acids
- Good resistance to chemicals
- Colour: black; grey on request

### Application

Machines and plants.



HelaGuard PCS Galvanised Steel Conduit, PVC Coating.

Material Data	
Material	Galvanised Steel (GS), Polyvinylchloride (PVC)
Operating Temperature	-15 °C to +70 °C



Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-30700	PCS10	10	10.0	6.8	25	140	50	Black (BK)
166-30701	PCS12	12	14	10.2	30	143	50	Black (BK)
166-30702	PCS16	16	17	13.0	40	196	25	Black (BK)
166-30703	PCS20	20	21.5	16.9	45	345	25	Black (BK)
166-30704	PCS25	25	26.0	21.1	55	411	25	Black (BK)
166-30705	PCS32	32	34.0	28.1	70	560	25	Black (BK)
166-30706	PCS40	40	44.5	37.6	80	719	25	Black (BK)
166-30707	PCS50	50	55.0	48.4	90	1052	25	Black (BK)
166-30708	PCS63	63	64.5	57.5	115	1091	10	Black (BK)
166-30709	PCS75	75	79.0	70.0	150	1459	10	Black (BK)

All dimensions in mm. Subject to technical changes.

Other reel length available on request.

**HelaGuard  
NCS Galvanised Steel Conduit,  
PA6 Coating**

Flexible galvanised steel conduit with elastomeric PA6 coating.

**Features and Benefits**

- High compression strength
- High tensile strength
- High impact strength
- Highly flexible
- High temperature resistance
- Highly resistance to acids and solvents
- Colour: black

**Application**

Demanding applications requiring higher temperatures and high resistance to acids and solvents.



The HelaGuard NCS galvanised steel conduit with a PA6 coating for higher temperatures and high resistance to acids and solvents.

Material Data

Material	<b>Galvanised Steel (GS), Polyamide 6.6 (PA66)</b>
Operating Temperature	<b>-40 °C to +120 °C</b>



Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-30801	<b>NCS16</b>	16	17.0	13.0	40	174	25	Black (BK)
166-30802	<b>NCS20</b>	20	21.5	16.9	45	345	25	Black (BK)
166-30803	<b>NCS25</b>	25	26.0	21.1	55	411	25	Black (BK)
166-30800	<b>NCS32</b>	32	34.0	28.1	70	510	10	Black (BK)

All dimensions in mm. Subject to technical changes.

Other reel length available on request.

## HelaGuard LFHCS Galvanised Steel Conduit, LFH Coating

Flexible galvanised steel conduit with highly flame resistant, low smoke and low toxicity coating.

### Features and Benefits

- High compression strength
- High tensile strength
- High impact strength
- Highly flexible
- Highly flame resistant (UL94 V0)
- Low smoke, low toxicity
- Halogen, sulphur and phosphorus free
- Colour: black

### Application

Rail industry, underground stations, tunnels, public buildings, wherever high fire protection is required.



*HelaGuard LFHCS galvanised steel conduit is low smoke, low toxicity, highly flame retardant and halogen free.*

### Material Data

Material	<b>Galvanised Steel (GS), Polyolefin (PO)</b>
Operating Temperature	<b>-25 °C to +90 °C</b>



### Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-30900	<b>LFHCS12</b>	12	14	10.2	30	199	25	Black (BK)
166-30901	<b>LFHCS16</b>	16	17	13.0	40	216	25	Black (BK)
166-30902	<b>LFHCS20</b>	20	21.5	16.9	45	350	25	Black (BK)
166-30903	<b>LFHCS25</b>	25	26.0	21.1	55	420	25	Black (BK)
166-30904	<b>LFHCS32</b>	32	34.0	28.1	70	571	25	Black (BK)
166-30905	<b>LFHCS40</b>	40	44.5	37.6	80	739	10	Black (BK)
166-30906	<b>LFHCS50</b>	50	55.0	48.4	90	1077	10	Black (BK)
166-30907	<b>LFHCS63</b>	63	64.5	57.5	115	1126	10	Black (BK)
166-30908	<b>LFHCS75</b>	75	79.0	70.0	150	1509	10	Black (BK)

All dimensions in mm. Subject to technical changes.

Other reel length available on request.

### Helaguard PCS-FM Fixed External Thread, IP54

Fixed external thread, nickel plated brass.

#### Features and Benefits

- Two part fitting comprising shell and body with external thread
- Can be secured with a locknut



Helaguard PCS-FM Fixed External Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-31000	PCS10-FM-M12	10	M12	–	10
166-31010	PCS10-FM-PG7	10	–	PG7	10
166-31001	PCS12-FM-M16	12	M16	–	10
166-31013	PCS12-FM-PG7	20	–	PG7	10
166-31011	PCS12-FM-PG9	12	–	PG9	10
166-31002	PCS16-FM-M16	16	M16	–	10
166-31003	PCS16-FM-M20	16	M20	–	10
166-31012	PCS16-FM-PG11	16	–	PG11	10
166-31004	PCS20-FM-M20	20	M20	–	10
166-31014	PCS20-FM-PG16	20	–	PG16	10
166-31005	PCS25-FM-M25	25	M25	–	10
166-31015	PCS25-FM-PG21	25	–	PG21	10
166-31006	PCS32-FM-M32	32	M32	–	2
166-31016	PCS32-FM-PG29	32	–	PG29	2
166-31007	PCS40-FM-M40	40	M40	–	2
166-31017	PCS40-FM-PG36	40	–	PG36	2
166-31008	PCS50-FM-M50	50	M50	–	1
166-31018	PCS50-FM-PG48	50	–	PG48	1
166-31009	PCS63-FM-M63	63	M63	–	1
166-31019	PCS63-FM-M75	75	M75	–	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB)
Colour	Metal (ML)
Operating Temperature	-100 °C to +300 °C



### Helaguard PCS-SM Swivel External Thread, IP54

Swivel external thread, nickel plated brass.

#### Features and Benefits

- Two part fitting comprising shell and body
- The external thread swivels about the main body
- Can be secured with a locknut



Helaguard PCS-SM Swivel External Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-31100	PCS10-SM-M12	10	M12	–	10
166-31110	PCS10-SM-PG7	10	–	PG7	10
166-31101	PCS12-SM-M16	12	M16	–	10
166-31111	PCS12-SM-PG9	12	–	PG9	10
166-31102	PCS16-SM-M16	16	M16	–	10
166-31103	PCS16-SM-M20	16	M20	–	10
166-31112	PCS16-SM-PG11	16	–	PG11	10
166-31104	PCS20-SM-M20	20	M20	–	10
166-31113	PCS20-SM-PG13	20	–	PG13.5	10
166-31114	PCS20-SM-PG16	20	–	PG16	10
166-31105	PCS25-SM-M25	25	M25	–	10
166-31115	PCS25-SM-PG21	25	–	PG21	10
166-31106	PCS32-SM-M32	32	M32	–	2
166-31116	PCS32-SM-PG29	32	–	PG29	2
166-31107	PCS40-SM-M40	40	M40	–	2
166-31117	PCS40-SM-PG36	40	–	PG36	2
166-31108	PCS50-SM-M50	50	M50	–	1
166-31118	PCS50-SM-PG42	50	–	PG42	1
166-31109	PCS63-SM-M63	63	M63	–	1

All dimensions in mm. Subject to technical changes.

## Helaguard PCS-PC Plain Hole Connector, IP54

Plain hole connector, nickel plated brass.

### Features and Benefits

- Two part fitting comprising shell and body without thread
- The body is fitted to the conduit through the opposite side of the entry
- Acts as a locking device
- Provides a smooth entry bush



Helaguard PCS-PC Plain Hole Connector.

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-31200	PCS10-PC	10	10
166-31201	PCS12-PC	12	10
166-31202	PCS16-PC	16	10
166-31203	PCS20-PC	20	10
166-31204	PCS25-PC	25	10
166-31205	PCS32-PC	32	2
166-31206	PCS40-PC	40	2
166-31207	PCS50-PC	50	1
166-31208	PCS63-PC	63	1
166-31209	PCS75-PC	75	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB)
Colour	Metal (ML)
Operating Temperature	-100 °C to +300 °C



## Helaguard PCS-FF Fixed Internal Thread, IP54

Fixed internal thread, nickel plated brass.

### Features and Benefits

- Two part fitting comprising shell and body with internal thread
- Can be used to couple two pieces of conduit together when used with a swivel fitting



Helaguard PCS-FF Fixed Internal Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Pack Cont.
166-31300	PCS16-FF-M20	16	M20	10
166-31301	PCS20-FF-M20	20	M20	10
166-31302	PCS25-FF-M25	25	M25	10
166-31303	PCS32-FF-M32	32	M32	10

All dimensions in mm. Subject to technical changes.

### Helaguard PCS-FMC Compression Fitting, IP65

External thread, nickel plated brass.

Fulfils IP65.

#### Features and Benefits

- Multipart compression fitting including elastomeric seal
- Can be used for knockouts or threaded entries as fitting rotates until tightened



Helaguard PCS-FMC Compression Fitting.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-31400	PCS10-FMC-M12	10	M12	–	10
166-31401	PCS12-FMC-M16	12	M16	–	10
166-31402	PCS16-FMC-M16	16	M16	–	10
166-31409	PCS16-FMC-PG11	16	–	PG11	10
166-31403	PCS16-FMC-M20	16	M20	–	10
166-31404	PCS20-FMC-M20	20	M20	–	10
166-31410	PCS20-FMC-PG16	20	–	PG16	10
166-31405	PCS25-FMC-M25	25	M25	–	10
166-31411	PCS25-FMC-PG21	25	–	PG21	10
166-31406	PCS32-FMC-M32	32	M32	–	2
166-31412	PCS32-FMC-PG29	32	–	PG29	10
166-31407	PCS40-FMC-M40	40	M40	–	2
166-31408	PCS50-FMC-M50	50	M50	–	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB), Polyamide 6 (PA6)
Colour	Metal (ML)
Operating Temperature	-40 °C to +135 °C



### Helaguard PCS-SMC Swivel Compression Fitting, IP65

External thread, nickel plated brass.

Fulfils IP65.

#### Features and Benefits

- Multipart compression fitting including elastomeric seal
- The external thread swivels about the main body even after tightening



Helaguard PCS-SMC Swivel Compression Fitting.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Pack Cont.
166-31500	PCS12-SMC-M16	12	M16	10
166-31501	PCS16-SMC-M16	16	M16	10
166-31502	PCS16-SMC-M20	16	M20	10
166-31503	PCS20-SMC-M20	20	M20	10
166-31504	PCS25-SMC-M25	25	M25	10
166-31505	PCS32-SMC-M32	32	M32	2

All dimensions in mm. Subject to technical changes.

### Helaguard PCS-90FMC 90° Elbow Compression Fitting, IP65

External thread elbow, nickel plated brass.  
Fulfils IP65.

#### Features and Benefits

- Multipart 90° compression fitting including elastomeric seal



Helaguard PCS-90FMC 90 Elbow Compression Fitting.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Pack Cont.
166-31600	PCS10-90FMC-M16	10	M16	10
166-31601	PCS12-90FMC-M16	12	M16	10
166-31602	PCS16-90FMC-M16	16	M16	10
166-31603	PCS16-90FMC-M20	16	M20	10
166-31604	PCS20-90FMC-M20	20	M20	10
166-31605	PCS25-90FMC-M25	25	M25	10
166-31606	PCS32-90FMC-M32	32	M32	2

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB), Polyamide 6 (PA6)
Colour	Metal (ML)
Operating Temperature	-40 °C to +135 °C



### Helaguard PCS-PCS Compression Coupler, IP65

Nickel plated brass.  
Fulfils IP65.

#### Features and Benefits

- Multipart compression coupler including polyamide seals.
- Joins two conduits



Helaguard PCS-PCS Compression Coupler.

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-31700	PCS20-PCS20	20	10
166-31701	PCS25-PCS25	25	10

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB), Polyamide 6 (PA6)
Colour	Metal (ML)
Operating Temperature	-40 °C to +135 °C



### Helaguard PCS-EI End Insert

Nickel plated brass.

#### Features and Benefits

- Single part
- Caps end of conduit



Helaguard PCS-EI End Insert.

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-31800	PCS10-EI	10	10
166-31801	PCS12-EI	12	10
166-31802	PCS16-EI	16	10
166-31803	PCS20-EI	20	10
166-31804	PCS25-EI	25	10
166-31805	PCS32-EI	32	2
166-31806	PCS40-EI	40	2
166-31807	PCS50-EI	50	2

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB)
Colour	Metal (ML)
Operating Temperature	-100 °C to +300 °C





## HelaGuard Steel Conduits with Liquid-Tight Cover and Fittings

### HelaGuard LTS Galvanised Steel Conduit, PVC Cover

Flexible galvanised steel conduit with smooth, liquid-tight pvc cover.  
Fulfills IP66, IP67 and IP68 with LTS-fittings.

#### Features and Benefits

- Liquid-tight (IP68 with LTS fittings)
- High compression strength
- High tensile strength
- High impact strength
- Good flexibility
- Smooth outer cover
- Cover does not wrinkle when bent
- Resistant to oils and greases
- Good resistance to petrol
- Resistant to acids
- UV resistant (black), suitable for outdoor use
- Colour: black; grey on request

#### Application

Machine tools or outdoor installations, wherever liquid-tight (IP68) is a requirement.



HelaGuard LTS galvanised steel conduit with a smooth, liquid-tight PVC cover is ideal for outdoor installations.



HelaGuard LTS.

Material Data	
Material	Galvanised Steel (GS), Polyvinylchloride (PVC)
Operating Temperature	-20 °C to +105 °C



Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-31900	LTS10	10	11.8	7.0	35	185	50	Black (BK)
166-31901	LTS12	12	14.2	10.0	40	203	25	Black (BK)
166-31902	LTS16	16	17.8	12.6	45	311	25	Black (BK)
166-31903	LTS20	20	21.1	16.0	65	407	25	Black (BK)
166-31904	LTS25	25	26.4	21.1	100	503	25	Black (BK)
166-31905	LTS32	32	33.1	26.5	135	732	25	Black (BK)
166-31906	LTS40	40	41.8	35.4	175	885	25	Black (BK)
166-31907	LTS50	50	47.9	40.4	230	1240	25	Black (BK)
166-31908	LTS63	63	59.7	51.6	280	1470	10	Black (BK)

All dimensions in mm. Subject to technical changes.

Other reel length available on request.

### HelaGuard LTSH Galvanised Steel Conduit, Thermoplastic Cover

Flexible galvanised steel conduit with smooth, flame retardant thermoplastic cover.

Fulfills IP66, IP67 and IP68 with LTS-fittings.

#### Features and Benefits

- Liquid-tight (IP68 with LTS fittings)
- Flame retardant
- High temperature resistance
- High compression strength
- High tensile strength
- High impact strength
- Good flexibility
- Smooth outer cover
- Cover does not wrinkle when bent
- Resistant to oils and greases
- Good resistance to petrol
- Good resistance to acids
- UV resistant and suitable for outdoor use
- Colour: black

#### Application

Machine tools or outdoor installations wherever flame retardance or low or high temperature resistance is required.



HelaGuard LTSH galvanised steel conduit with a smooth, liquid-tight thermoplastic rubber cover offers very good resistance to oils, greases, petrol, acids and UV.



HelaGuard LTSH.

Material Data	
Material	Galvanised Steel (GS), Thermoplastic Rubber (TPR)
Operating Temperature	-45 °C to +135 °C



Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-32001	LTSH12	12	14.2	10.0	40	203	25	Black (BK)
166-32002	LTSH16	16	17.8	12.6	45	311	25	Black (BK)
166-32003	LTSH20	20	21.1	16.0	65	407	25	Black (BK)
166-32004	LTSH25	25	26.4	21.1	100	445	25	Black (BK)
166-32005	LTSH32	32	33.1	26.5	135	666	25	Black (BK)
166-32006	LTSH40	40	41.8	35.4	175	793	25	Black (BK)
166-32007	LTSH50	50	47.9	40.4	230	1071	25	Black (BK)

All dimensions in mm. Subject to technical changes.

Other reel length available on request.

## HelaGuard Steel Conduits with Liquid-Tight Cover and Fittings

### HelaGuard LTSUL Galvanised Steel Conduit, PVC Cover, UL Listed

Flexible galvanised steel conduit including copper bonding strip (up to 32 mm) with smooth, oil resistant pvc cover.  
Fulfils IP66, IP67 and IP68 with LTS-fittings.

#### Features and Benefits

- UL listed and CSA approved
- Liquid-tight (IP68 with LTS fittings)
- High compression strength
- High tensile strength
- High impact strength
- Good flexibility
- Smooth outer cover
- Cover does not wrinkle when bent
- Good resistance to oils and greases
- Good resistance to petrol
- UV resistant (black) and suitable for external use
- Colour: black

#### Application

Machine tools or outdoor installations, liquid-tight applications where UL listing is required.



The HelaGuard LTSUL galvanised steel conduit with a PVC Cover is UL listed and typically used on drilling platforms.



HelaGuard LTSUL.

Material Data	
Material	Galvanised Steel (GS), Polyvinylchloride (PVC), Copper (CU)
Operating Temperature	-15 °C to +75 °C



Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-32100	LTSUL16	16	17.8	12.6	50	432	50	Black (BK)
166-32101	LTSUL20	20	21.1	16.0	90	477	25	Black (BK)
166-32102	LTSUL25	25	26.4	21.1	110	789	25	Black (BK)
166-32103	LTSUL32	32	33.1	26.5	140	1221	15	Black (BK)
166-32104	LTSUL40	40	41.8	35.4	180	1519	15	Black (BK)
166-32105	LTSUL50	50	47.9	40.4	230	1846	15	Black (BK)
166-32106	LTSUL63	63	59.7	51.6	280	2159	15	Black (BK)

All dimensions in mm. Subject to technical changes.

Other reel length available on request.



Please Note for Product Specific Approvals please refer to the Appendix

**HelaGuard****LTS-FMC Compression Fitting, IP68**

External thread, nickel plated brass.  
Fulfils IP66, IP67 and IP68.

**Features and Benefits**

- Multipart compression fitting including polyamide seal
- Can be used for knockout or threaded entries as fitting rotates until tightened



HelaGuard LTS-FMC Compression Fitting.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-32200	LTS10-FMC-M12	10	M12	–	10
166-32201	LTS10-FMC-M16	10	M16	–	10
166-32202	LTS12-FMC-M12	12	M12	–	10
166-32203	LTS12-FMC-M16	12	M16	–	10
166-32204	LTS16-FMC-M16	16	M16	–	10
166-32212	LTS16-FMC-PG11	16	–	PG11	10
166-32205	LTS16-FMC-M20	16	M20	–	10
166-32206	LTS20-FMC-M20	20	M20	–	10
166-32213	LTS20-FMC-PG16	20	–	PG16	10
166-32207	LTS25-FMC-M25	25	M25	–	10
166-32214	LTS25-FMC-PG21	25	–	PG21	10
166-32208	LTS32-FMC-M32	32	M32	–	2
166-32215	LTS32-FMC-PG29	32	–	PG29	2
166-32209	LTS40-FMC-M40	40	M40	–	1
166-32210	LTS50-FMC-M50	50	M50	–	1
166-32211	LTS63-FMC-M63	63	M63	–	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB), Polyamide 6 (PA6)
Colour	Metal (ML)
Operating Temperature	-40 °C to +135 °C

**HelaGuard****LTS-SMC Swivel Compression Fitting, IP68**

External thread, nickel plated brass.  
Fulfils IP66, IP67 and IP68.

**Features and Benefits**

- Multipart compression fitting including elastomeric seal
- The external thread swivels about the main body even after tightening



HelaGuard LTS-SMC Swivel Compression Fitting.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Pack Cont.
166-32300	LTS12-SMC-M16	12	M16	10
166-32301	LTS16-SMC-M16	16	M16	10
166-32302	LTS16-SMC-M20	16	M20	10
166-32303	LTS20-SMC-M20	20	M20	10
166-32304	LTS25-SMC-M25	25	M25	10
166-32305	LTS32-SMC-M32	32	M32	2

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB), Polyamide 6 (PA6)
Colour	Metal (ML)
Operating Temperature	-40 °C to +135 °C



### HelaGuard LTS-90FMC 90° Elbow Compression Fitting, IP68

External thread, nickel plated brass.  
Fulfils IP66, IP67 and IP68.

#### Features and Benefits

- 90° elbow multipart compression fitting including polyamide seal



HelaGuard LTS-90FMC 90° Elbow Compression Fitting.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Pack Cont.
166-32400	LTS12-90FMC-M16	12	M16	10
166-32401	LTS16-90FMC-M16	16	M16	10
166-32402	LTS16-90FMC-M20	16	M20	10
166-32403	LTS20-90FMC-M20	20	M20	10
166-32404	LTS25-90FMC-M25	25	M25	10
166-32405	LTS32-90FMC-M32	32	M32	2
166-32406	LTS40-90FMC-M40	40	M40	1
166-32407	LTS50-90FMC-M50	50	M50	1
166-32408	LTS63-90FMC-M63	63	M63	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB), Polyamide 6 (PA6)
Colour	Metal (ML)
Operating Temperature	-40 °C to +135 °C



### HelaGuard LTS-45FMC 45° Elbow Compression Fitting, IP68

External thread, nickel plated brass.  
Fulfils IP66, IP67 and IP68.

#### Features and Benefits

- 45° elbow multipart compression fitting including polyamide seal



HelaGuard LTS-45FMC 45° Elbow Compression Fitting.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Pack Cont.
166-32500	LTS16-45FMC-M20	16	M20	10
166-32501	LTS20-45FMC-M20	20	M20	10
166-32502	LTS25-45FMC-M25	25	M25	10
166-32503	LTS32-45FMC-M32	32	M32	2
166-32504	LTS40-45FMC-M40	40	M40	1
166-32505	LTS50-45FMC-M50	50	M50	1
166-32506	LTS63-45FMC-M63	63	M63	1

All dimensions in mm. Subject to technical changes.

### HelaGuard LTS-LTS Compression Coupler, IP68

Nickel plated brass.  
Fulfils IP66, IP67 and IP68.

#### Features and Benefits

- Multipart compression coupler including polyamide seals
- Joins two conduits



HelaGuard LTS-LTS Compression Coupler.

#### Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-32600	LTS20-LTS20	20	10
166-32601	LTS25-LTS25	25	10

All dimensions in mm. Subject to technical changes.

#### Material Data

Material	<b>Nickel Plated Brass (NPB), Polyamide 6 (PA6)</b>
Colour	<b>Metal (ML)</b>
Operating Temperature	<b>-40 °C to +135 °C</b>



### HelaGuard LTS-EI End Insert

Nickel plated brass.

#### Features and Benefits

- Single part
- Caps end of conduit



HelaGuard LTS-EI End Insert.

#### Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-32700	LTS10-EI	10	10
166-32701	LTS12-EI	12	10
166-32702	LTS16-EI	16	10
166-32703	LTS20-EI	20	10
166-32704	LTS25-EI	25	10
166-32705	LTS32-EI	32	2
166-32706	LTS40-EI	40	1
166-32707	LTS50-EI	50	1
166-32708	LTS63-EI	63	1

All dimensions in mm. Subject to technical changes.

#### Material Data

Material	<b>Nickel Plated Brass (NPB)</b>
Colour	<b>Metal (ML)</b>
Operating Temperature	<b>-100 °C to +300 °C</b>



## HelaGuard Steel Conduits with Plastic Coating and Steel Overbraid

### HelaGuard PCSB Galvanised Steel Conduit PVC Coating, Galvanised Steel Overbraid

Flexible galvanised steel conduit with pvc coating and galvanised steel overbraid.

#### Features and Benefits

- High compression strength
- High tensile strength
- High impact strength
- Highly flexible
- High abrasion resistance
- Provides EMC screening

#### Application

Industrial environments where higher abrasion resistance or EMC screening are required.



The HelaGuard PCSB galvanised steel conduit with a PVC coating galvanised steel overbraid offers high abrasion resistance and EMC screening.

Material Data	
Material	Galvanised Steel (GS), Polyvinylchloride (PVC)
Operating Temperature	-15 °C to +70 °C



Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-33600	PCSB12	12	15.2	10.2	30	252	25	Metal (ML)
166-33601	PCSB16	16	18.2	13.0	40	348	25	Metal (ML)
166-33602	PCSB20	20	22.7	16.9	45	530	25	Metal (ML)
166-33603	PCSB25	25	27.2	21.1	55	614	25	Metal (ML)
166-33604	PCSB32	32	35.2	28.1	70	832	25	Metal (ML)
166-33605	PCSB40	40	45.7	37.6	80	1286	10	Metal (ML)
166-33606	PCSB50	50	57.7	48.4	90	1736	10	Metal (ML)

All dimensions in mm. Subject to technical changes.

Other reel length available on request.

### HelaGuard PCSB-FM Fixed External Thread, IP54

Fixed external thread, nickel plated brass.

#### Features and Benefits

- Two part fitting comprising shell and body with external thread
- Can be secured with a locknut



HelaGuard PCSB-FM Fixed External Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-33808	PCSB12-FM-PG9	12	–	PG9	10
166-33800	PCSB12-FM-M16	12	M16	–	10
166-33809	PCSB16-FM-PG11	16	–	PG11	10
166-33801	PCSB16-FM-M16	16	M16	–	10
166-33802	PCSB16-FM-M20	16	M20	–	10
166-33803	PCSB20-FM-M20	20	M20	–	10
166-33810	PCSB20-FM-PG16	20	–	PG16	10
166-33804	PCSB25-FM-M25	25	M25	–	10
166-33811	PCSB25-FM-PG21	25	–	PG21	10
166-33805	PCSB32-FM-M32	32	M32	–	2
166-33812	PCSB32-FM-PG29	32	–	PG29	2
166-33806	PCSB40-FM-M40	40	M40	–	1
166-33813	PCSB40-FM-PG36	40	–	PG36	1
166-33807	PCSB50-FM-M50	50	M50	–	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB)
Colour	Metal (ML)
Operating Temperature	-100 °C to +300 °C



### HelaGuard PCSB-SM Swivel External Thread, IP54

Swivel external thread, nickel plated brass.

#### Features and Benefits

- Two part fitting comprising shell and body with external thread
- The external thread swivels about the main body
- Can be secured with a locknut



HelaGuard PCSB-SM Swivel External Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-33900	PCSB12-SM-M16	12	M16	–	10
166-33908	PCSB12-SM-PG9	12	–	PG9	10
166-33901	PCSB16-SM-M16	16	M16	–	10
166-33902	PCSB16-SM-M20	16	M20	–	10
166-33909	PCSB16-SM-PG11	16	–	PG11	10
166-33903	PCSB20-SM-M20	20	M20	–	10
166-33910	PCSB20-SM-PG16	20	–	PG16	10
166-33904	PCSB25-SM-M25	25	M25	–	10
166-33911	PCSB25-SM-PG21	25	–	PG21	10
166-33905	PCSB32-SM-M32	32	M32	–	2
166-33912	PCSB32-SM-PG29	32	–	PG29	2
166-33906	PCSB40-SM-M40	40	M40	–	1
166-33913	PCSB40-SM-PG36	40	–	PG36	1
166-33907	PCSB50-SM-M50	50	M50	–	1
166-33914	PCSB50-SM-PG42	50	–	PG42	1

All dimensions in mm. Subject to technical changes.



## HelaGuard Steel Conduits with Plastic Coating and Steel Overbraid

### HelaGuard PCSB-PC Plain Hole Connector, IP54

Plain hole connector, nickel plated brass.

#### Features and Benefits

- Two part fitting comprising shell and body without thread
- The body is fitted to the conduit through the opposite side of the entry
- Acts as a locking device
- Provides a smooth entry bush



HelaGuard PCSB-PC Plain Hole Connector.

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-34000	PCSB12-PC	12	10
166-34001	PCSB16-PC	16	10
166-34002	PCSB20-PC	20	10
166-34003	PCSB25-PC	25	10
166-34004	PCSB32-PC	32	2
166-34005	PCSB40-PC	40	1
166-34006	PCSB50-PC	50	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Nickel Plated Brass (NPB)</b>
Colour	<b>Metal (ML)</b>
Operating Temperature	<b>-100 °C to +300 °C</b>



### HelaGuard PCSB-FMC Fixed Compression Fitting, IP65

Fixed external thread, nickel plated brass.  
Fulfils IP65.

#### Features and Benefits

- Multipart compression fitting including elastomeric seal
- Can be used for knockouts as fitting rotates until tightened
- Braid is locked between inner and outer compression nuts



HelaGuard PCSB-FMC Fixed Compression Fitting.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-34100	PCSB16-FMC-M16	16	M16	–	10
166-34101	PCSB16-FMC-M20	16	M20	–	10
166-34105	PCSB16-FMC-PG11	16	–	PG11	10
166-34102	PCSB20-FMC-M20	20	M20	–	10
166-34106	PCSB20-FMC-PG16	20	–	PG16	10
166-34103	PCSB25-FMC-M25	25	M25	–	10
166-34107	PCSB25-FMC-PG21	25	–	PG21	10
166-34104	PCSB32-FMC-M32	32	M32	–	2
166-34108	PCSB32-FMC-PG29	32	–	PG29	2

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Nickel Plated Brass (NPB), Polyamide 6 (PA6)</b>
Colour	<b>Metal (ML)</b>
Operating Temperature	<b>-40 °C to +135 °C</b>



### HelaGuard PCSB-SMC Swivel Compression Fitting, IP65

Swivel external thread, nickel plated brass.  
Fulfils IP65.

#### Features and Benefits

- Multipart compression fitting including elastomeric seal
- Can be used for knockouts or threaded entries as fitting rotates until tightened
- Braid is locked between inner and outer compression nuts



HelaGuard PCSB-SMC Swivel Compression Fitting.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Pack Cont.
166-34200	PCSB16-SMC-M16	16	M16	10
166-34201	PCSB16-SMC-M20	16	M20	10
166-34202	PCSB20-SMC-M20	20	M20	10
166-34203	PCSB25-SMC-M25	25	M25	10
166-34204	PCSB32-SMC-M32	32	M32	2

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB), Polyamide 6 (PA6)
Colour	Metal (ML)
Operating Temperature	-40 °C to +135 °C



### HelaGuard PCSB-90FMC Swivel Compression Fitting, IP65

External thread elbow, nickel plated brass.  
Fulfils IP65.

#### Features and Benefits

- Multipart 90° compression fitting including elastomeric seal
- Braid is locked between inner and outer compression nuts



HelaGuard PCSB-90FMC Swivel Compression Fitting.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Pack Cont.
166-34300	PCSB16-90FMC-M16	16	M16	10
166-34301	PCSB16-90FMC-M20	16	M20	10
166-34302	PCSB20-90FMC-M20	20	M20	10
166-34303	PCSB25-90FMC-M25	25	M25	10
166-34304	PCSB32-90FMC-M32	32	M32	2

All dimensions in mm. Subject to technical changes.

## HelaGuard SCSB Galvanised Steel Conduit, Galvanised Steel Overbraid

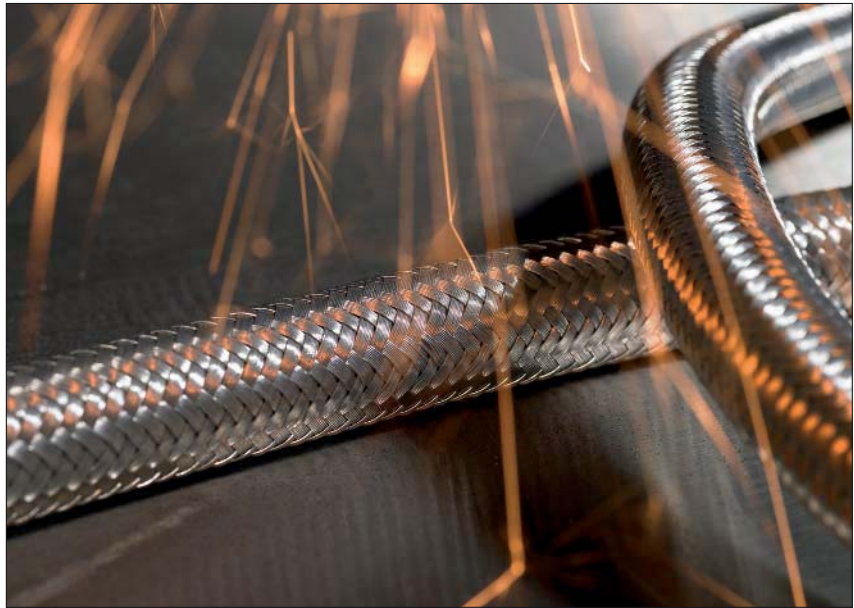
Flexible, galvanised steel conduit with galvanised steel overbraid.

### Features and Benefits

- High compression strength
- High tensile strength
- High impact strength
- Highly flexible
- Highly resistant to abrasion
- Provides EMC screening
- Highly resistant to hot metal swarf and splashes

### Application

Industrial environments and high temperatures.



HelaGuard SCSB galvanised steel conduit with galvanised steel overbraid is highly resistant to hot metal swarf and splashes.

### Material Data

Material	<b>Galvanised Steel (GS)</b>
Operating Temperature	<b>-100 °C to +300 °C</b>



### Technical Table

Article-No.	Type	Nominal Ø	Outside Ø (OD)	Ø D	Bending Radius	Weight (g/m)	Reel Length (m)	Colour
166-34400	<b>SCSB12</b>	12	14.0	10.2	30	232	25	Metal (ML)
166-34401	<b>SCSB16</b>	16	17.5	13.0	40	298	25	Metal (ML)
166-34402	<b>SCSB20</b>	20	21.5	16.9	45	446	25	Metal (ML)
166-34403	<b>SCSB25</b>	25	26.0	21.1	55	503	25	Metal (ML)
166-34404	<b>SCSB32</b>	32	34.0	28.1	70	702	25	Metal (ML)
166-34405	<b>SCSB40</b>	40	43.5	37.6	80	1086	10	Metal (ML)

All dimensions in mm. Subject to technical changes.

Other reel length available on request.

### HelaGuard SCSB-FM Fixed External Thread, IP40

Fixed external thread, nickel plated brass.

#### Features and Benefits

- Two part fitting comprising shell and body with external thread
- Can be secured with a locknut



HelaGuard SCSB-FM Fixed External Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-34600	SCSB12-FM-M16	12	M16	–	10
166-34607	SCSB12-FM-PG9	12	–	PG9	10
166-34601	SCSB16-FM-M16	16	M16	–	10
166-34602	SCSB16-FM-M20	16	M20	–	10
166-34608	SCSB16-FM-PG11	16	–	PG11	10
166-34603	SCSB20-FM-M20	20	M20	–	10
166-34609	SCSB20-FM-PG16	20	–	PG16	10
166-34604	SCSB25-FM-M25	25	M25	–	10
166-34610	SCSB25-FM-PG21	25	–	PG21	10
166-34605	SCSB32-FM-M32	32	M32	–	2
166-34611	SCSB32-FM-PG29	32	–	PG29	2
166-34606	SCSB40-FM-M40	40	M40	–	1
166-34612	SCSB40-FM-PG36	40	–	PG36	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB)
Colour	Metal (ML)
Operating Temperature	-100 °C to +300 °C



### HelaGuard SCSB-SM Swivel External Thread, IP40

Swivel external thread, nickel plated brass.

#### Features and Benefits

- Two part fitting comprising shell and body
- External thread swivels about the main body
- Can be secured with a locknut



HelaGuard SCSB-SM Swivel External Thread.

Technical Table

Article-No.	Type	Conduit Ø	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-34700	SCSB12-SM-M16	12	M16	–	10
166-34707	SCSB12-SM-PG9	12	–	PG9	10
166-34701	SCSB16-SM-M16	16	M16	–	10
166-34702	SCSB16-SM-M20	16	M20	–	10
166-34708	SCSB16-SM-PG11	16	–	PG11	10
166-34703	SCSB20-SM-M20	20	M20	–	10
166-34709	SCSB20-SM-PG16	20	–	PG16	10
166-34704	SCSB25-SM-M25	25	M25	–	10
166-34710	SCSB25-SM-PG21	25	–	PG21	10
166-34705	SCSB32-SM-M32	32	M32	–	2
166-34711	SCSB32-SM-PG29	32	–	PG29	2
166-34706	SCSB40-SM-M40	40	M40	–	1
166-34712	SCSB40-SM-PG36	40	–	PG36	1

All dimensions in mm. Subject to technical changes.

**HelaGuard****SCSB-PC Plain Hole Connector**

Plain hole connector, nickel plated brass.

**Features and Benefits**

- Two part fitting comprising shell and body without thread
- The body is fitted to the conduit through the opposite side of the entry
- Acts as a locking device
- Provides a smooth entry bush

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-34800	SCSB12-PC	12	10
166-34801	SCSB16-PC	16	10
166-34802	SCSB20-PC	20	10
166-34803	SCSB25-PC	25	10
166-34804	SCSB32-PC	32	2
166-34805	SCSB40-PC	40	1

All dimensions in mm. Subject to technical changes.



HelaGuard SCSB-PC Plain Hole Connector.

Material Data

Material	Nickel Plated Brass (NPB)
Colour	Metal (ML)
Operating Temperature	-100 °C to +300 °C

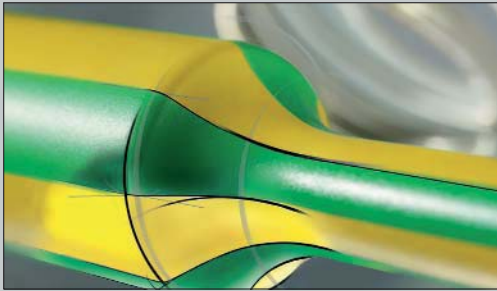


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## HelGuard Accessories

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### HelaGuard A90FM 90° Elbow

Internal and external threads, nickel plated brass.



HelaGuard A90FM 90° Elbow.

Technical Table

Article-No.	Type	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-50000	<b>A90FM-PG7</b>	–	PG7	10
166-50001	<b>A90FM-M16</b>	M16	–	10
166-50002	<b>A90FM-M20</b>	M20	–	10
166-50003	<b>A90FM-M25</b>	M25	–	10
166-50004	<b>A90FM-M32</b>	M32	–	2
166-50005	<b>A90FM-M40</b>	M40	–	1
166-50006	<b>A90FM-M50</b>	M50	–	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Nickel Plated Brass (NPB)</b>
Colour	<b>Metal (ML)</b>
Operating Temperature	<b>-100 °C to +300 °C</b>



### HelaGuard ACP Couplers

Internally threaded, nickel plated brass.



HelaGuard ACP Couplers.

Technical Table

Article-No.	Type	Thread Size (metric)	Pack Cont.
166-50400	<b>ACP-M16</b>	M16	10
166-50401	<b>ACP-M20</b>	M20	10
166-50402	<b>ACP-M25</b>	M25	10
166-50403	<b>ACP-M32</b>	M32	10
166-50404	<b>ACP-M40</b>	M40	2
166-50405	<b>ACP-M50</b>	M50	1
166-50406	<b>ACP-M63</b>	M63	1
166-50407	<b>ACP-M75</b>	M75	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Nickel Plated Brass (NPB)</b>
Colour	<b>Metal (ML)</b>
Operating Temperature	<b>-100 °C to +300 °C</b>





## HelaGuard PACC Clip for Corrugated Conduits

### Features and Benefits

- Easy and quick assembly
- With integrated lid
- With through hole for fastening with screw
- Inner rib to prevent conduit from slipping
- Can be used in C-shaped DIN rails



HelaGuard PACC Conduit Clip.

### Technical Table

Article-No.	Type	Conduit Ø	Fixing Hole Ø (FH)	Pack Cont.
166-25707	<b>PACC10</b>	10	M5	10
166-25700	<b>PACC13</b>	13	M5	10
166-25701	<b>PACC16</b>	16	M5	10
166-25702	<b>PACC21</b>	21	M6	10
166-25703	<b>PACC28</b>	28	M6	10
166-25704	<b>PACC34</b>	34	M6	10
166-25705	<b>PACC42</b>	42	M6	5
166-25706	<b>PACC54</b>	54	M6	5

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

### Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



## HelaGuard AFCP Clip for Rigid Conduits

### Features and Benefits

- Easy and quick assembly
- With integrated lid
- With through hole for fastening with screw
- Can be used in C-shaped DIN rails



HelaGuard AFCP Conduit Clip.

### Technical Table

Article-No.	Type	Conduit Ø	Fixing Hole Ø (FH)	Pack Cont.
166-50700	<b>AFCP16</b>	16	M5	10
166-50701	<b>AFCP20</b>	20	M6	10
166-50702	<b>AFCP25</b>	25	M6	10
166-50703	<b>AFCP33</b>	33	M6	10

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

### Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>
Flammability	<b>UL94 V2</b>



### HelaGuard AFCS Fixing Clip, Plated Steel and PVC Liner



HelaGuard AFCS Fixing Clip, Plated Steel and PVC Liner.

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-50600	<b>AFCS10</b>	10	10
166-50601	<b>AFCS12</b>	12	10
166-50602	<b>AFCS16</b>	16	10
166-50603	<b>AFCS20</b>	20	10
166-50604	<b>AFCS25</b>	25	10
166-50605	<b>AFCS32</b>	32	10
166-50606	<b>AFCS40</b>	40	5
166-50607	<b>AFCS50</b>	50	5
166-50608	<b>AFCS63</b>	63	1
166-50609	<b>AFCS75</b>	75	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Galvanised Steel (GS), Polyvinylchloride (PVC)</b>
Colour	<b>Metal (ML), Black (BK)</b>
Operating Temperature	<b>-20 °C to +105 °C</b>



### HelaGuard AFCS Fixing Clip, Stainless Steel



HelaGuard AFCS Fixing Clip, Stainless Steel.

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-50610	<b>AFCSS10</b>	10	10
166-50611	<b>AFCSS12</b>	12	10
166-50612	<b>AFCSS16</b>	16	10
166-50613	<b>AFCSS20</b>	20	10
166-50614	<b>AFCSS25</b>	25	10
166-50615	<b>AFCSS32</b>	32	10
166-50616	<b>AFCSS40</b>	40	5
166-50617	<b>AFCSS50</b>	50	5

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Stainless Steel (SS316)</b>
Colour	<b>Metal (ML)</b>
Operating Temperature	<b>-100 °C to +400 °C</b>



## HelaGuard ALNPB Nickel Plated Brass Locknuts



HelaGuard ALNPB Nickel Plated Brass Locknuts.

Technical Table

Article-No.	Type	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-50100	ALNPB-M12	M12	–	10
166-50101	ALNPB-M16	M16	–	10
166-50102	ALNPB-M20	M20	–	10
166-50103	ALNPB-M25	M25	–	10
166-50104	ALNPB-M32	M32	–	2
166-50105	ALNPB-M40	M40	–	1
166-50106	ALNPB-M50	M50	–	1
166-50107	ALNPB-M63	M63	–	1
166-50108	ALNPB-M75	M75	–	1
166-50109	ALNPB-PG7	–	PG7	10
166-50110	ALNPB-PG9	–	PG9	10
166-50111	ALNPB-PG11	–	PG11	10
166-50112	ALNPB-PG13	–	PG13.5	10
166-50113	ALNPB-PG16	–	PG16	10
166-50114	ALNPB-PG21	–	PG21	10
166-50115	ALNPB-PG29	–	PG29	1
166-50116	ALNPB-PG36	–	PG36	1
166-50117	ALNPB-PG42	–	PG42	1
166-50118	ALNPB-PG48	–	PG48	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	Nickel Plated Brass (NPB)
Colour	Metal (ML)
Operating Temperature	-100 °C to +300 °C



## HelaGuard ALS Plated Steel Locknuts



HelaGuard ALS Plated Steel Locknuts.

Technical Table

Article-No.	Type	Thread Size (metric)	Pack Cont.
166-50119	ALS-M16	M16	10
166-50120	ALS-M20	M20	10
166-50121	ALS-M25	M25	10
166-50122	ALS-M32	M32	2
166-50123	ALS-M40	M40	1
166-50124	ALS-M50	M50	1
166-50125	ALS-M63	M63	1

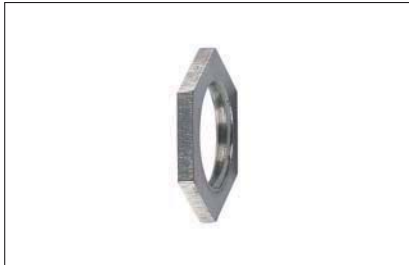
All dimensions in mm. Subject to technical changes.

Material Data

Material	Galvanised Steel (GS)
Colour	Metal (ML)
Operating Temperature	-100 °C to +300 °C



## HelaGuard ALSS Stainless Steel Locknuts



HelaGuard ALSS Stainless Steel Locknuts.

Technical Table

Article-No.	Type	Thread Size (metric)	Pack Cont.
166-50126	ALSS-M16	M16	10
166-50127	ALSS-M20	M20	10
166-50128	ALSS-M25	M25	10
166-50129	ALSS-M32	M32	2
166-50130	ALSS-M40	M40	1
166-50131	ALSS-M50	M50	1
166-50132	ALSS-M63	M63	1

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Stainless Steel (SS316)</b>
Colour	<b>Metal (ML)</b>
Operating Temperature	<b>-100 °C to +400 °C</b>



## HelaGuard ALPA PA66 Locknuts



HelaGuard ALPA PA66 Locknuts.

Technical Table

Article-No.	Type	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-50133	ALPA-M12	M12	–	10
166-50134	ALPA-M16	M16	–	10
166-50135	ALPA-M20	M20	–	10
166-50136	ALPA-M25	M25	–	10
166-50137	ALPA-M32	M32	–	2
166-50138	ALPA-M40	M40	–	1
166-50139	ALPA-M50	M50	–	1
166-50140	ALPA-M63	M63	–	1
166-50141	ALPA-PG7	–	PG7	10
166-50142	ALPA-PG9	–	PG9	10
166-50143	ALPA-PG11	–	PG11	10
166-50144	ALPA-PG13	–	PG13.5	10
166-50145	ALPA-PG16	–	PG16	10
166-50146	ALPA-PG21	–	PG21	10
166-50147	ALPA-PG29	–	PG29	1
166-50148	ALPA-PG36	–	PG36	1
166-50149	ALPA-PG42	–	PG42	1
166-50150	ALPA-PG48	–	PG48	1

All dimensions in mm. Subject to technical changes.

Colour grey available on request.

Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>



## HelaGuard AWS Chloroprene Sealing Washers

### Features and Benefits

- Protects against water and dust
- For PG and metric thread
- Resistant to oil



HelaGuard AWS Chloroprene Sealing Washers.

Technical Table

Article-No.	Type	Thread Size (metric)	Thread Size (PG)	Pack Cont.
166-50500	<b>AWS-M12</b>	M12	–	100
166-50501	<b>AWS-M16</b>	M16	–	100
166-50502	<b>AWS-M20</b>	M20	–	50
166-50503	<b>AWS-M25</b>	M25	–	10
166-50504	<b>AWS-M32</b>	M32	–	10
166-50505	<b>AWS-M40</b>	M40	–	10
166-50506	<b>AWS-M50</b>	M50	–	10
166-50507	<b>AWS-M63</b>	M63	–	10
166-50508	<b>AWS-PG7</b>	–	PG7	100
166-50509	<b>AWS-PG9</b>	–	PG9	100
166-50510	<b>AWS-PG11</b>	–	PG11	100
166-50511	<b>AWS-PG13</b>	–	PG13.5	100
166-50512	<b>AWS-PG16</b>	–	PG16	50
166-50513	<b>AWS-PG21</b>	–	PG21	10
166-50514	<b>AWS-PG29</b>	–	PG29	10
166-50515	<b>AWS-PG36</b>	–	PG36	10
166-50516	<b>AWS-PG42</b>	–	PG42	10
166-50517	<b>AWS-PG48</b>	–	PG48	10

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Chloroprene (CR)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-40 °C to +135 °C</b>



## HelaGuard PAEC End Caps for Corrugated Conduits

### Features and Benefits

- Snaps over end of conduit when not terminated with fitting
- Provides smooth entry to prevent damage to cables



HelaGuard PAEC End Cap.

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-50800	<b>PAEC16</b>	16	10
166-50801	<b>PAEC21</b>	21	10
166-50802	<b>PAEC28</b>	28	10
166-50803	<b>PAEC34</b>	34	10
166-50804	<b>PAEC42</b>	42	10
166-50805	<b>PAEC54</b>	54	10

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Polyamide 6.6 (PA66)</b>
Colour	<b>Black (BK)</b>
Operating Temperature	<b>-50 °C to +135 °C</b>



## HelaGuard CNV Converters

Nickel plated brass.

- Thread convertors
- Reducers
- Enlargers



HelaGuard CNV Convertors.

Technical Table

Article-No.	Type	Thread Size, internal	Thread Size external	Pack Cont.
166-50900	<b>CNV-M20-M16</b>	M16	M20	10
166-50901	<b>CNV-PG7-M16</b>	M16	PG7	10
166-50902	<b>CNV-PG9-M16</b>	M16	PG9	10
166-50903	<b>CNV-PG11-M16</b>	M16	PG11	10
166-50904	<b>CNV-PG13-M16</b>	M16	PG13.5	10
166-50905	<b>CNV-PG16-M16</b>	M16	PG16	10
166-50906	<b>CNV-M16-M20</b>	M20	M16	10
166-50907	<b>CNV-M25-M20</b>	M20	M25	10
166-50908	<b>CNV-PG9-M20</b>	M20	PG9	10
166-50909	<b>CNV-PG11-M20</b>	M20	PG11	10
166-50910	<b>CNV-PG13-M20</b>	M20	PG13.5	10
166-50911	<b>CNV-PG16-M20</b>	M20	PG16	10
166-50912	<b>CNV-PG21-M20</b>	M20	PG21	10
166-50913	<b>CNV-PG29-M20</b>	M20	PG29	2
166-50914	<b>CNV-M20-M25</b>	M25	M20	10
166-50915	<b>CNV-M32-M25</b>	M25	M32	10
166-50916	<b>CNV-M40-M25</b>	M25	M40	10
166-50917	<b>CNV-M50-M25</b>	M25	M50	1
166-50918	<b>CNV-PG16-M25</b>	M25	PG16	10
166-50919	<b>CNV-PG21-M25</b>	M25	PG21	10
166-50920	<b>CNV-PG29-M25</b>	M25	PG29	2
166-50921	<b>CNV-M25-M32</b>	M32	M25	10
166-50922	<b>CNV-M40-M32</b>	M32	M40	2
166-50923	<b>CNV-M50-M32</b>	M32	M50	1
166-50924	<b>CNV-PG21-M32</b>	M32	PG21	2
166-50925	<b>CNV-PG29-M32</b>	M32	PG29	2
166-50926	<b>CNV-PG36-M32</b>	M32	PG36	2
166-50927	<b>CNV-M50-M40</b>	M40	M50	1
166-50928	<b>CNV-M63-M40</b>	M40	M63	1
166-50929	<b>CNV-PG29-M40</b>	M40	PG29	1
166-50930	<b>CNV-PG36-M40</b>	M40	PG36	1
166-50931	<b>CNV-M63-M50</b>	M50	M63	1
166-51012	<b>CNV-M16-PG11</b>	PG11	M16	10
166-51013	<b>CNV-M20-PG11</b>	PG11	M20	10
166-51014	<b>CNV-PG9-PG11</b>	PG11	PG9	10
166-51015	<b>CNV-PG13-PG11</b>	PG11	PG13.5	10
166-51016	<b>CNV-PG16-PG11</b>	PG11	PG16	10
166-51017	<b>CNV-PG21-PG11</b>	PG11	PG21	10
166-51018	<b>CNV-M20-PG13</b>	PG13.5	M20	10
166-51019	<b>CNV-PG11-PG13</b>	PG13.5	PG11	10
166-51020	<b>CNV-PG16-PG13</b>	PG13.5	PG16	10
166-51021	<b>CNV-PG21-PG13</b>	PG13.5	PG21	10

All dimensions in mm. Subject to technical changes.

Material Data

Material	<b>Nickel Plated Brass (NPB)</b>
Colour	<b>Metal (ML)</b>
Operating Temperature	<b>-100 °C to +300 °C</b>



## HelaGuard CNV Converters

Nickel plated brass.

Technical Table

Article-No.	Type	Thread Size, internal	Thread Size external	Pack Cont.
166-51022	<b>CNV-M20-PG16</b>	PG16	M20	10
166-51023	<b>CNV-PG13-PG16</b>	PG16	PG13.5	10
166-51024	<b>CNV-PG21-PG16</b>	PG16	PG21	10
166-51025	<b>CNV-PG29-PG16</b>	PG16	PG29	2
166-51026	<b>CNV-M20-PG21</b>	PG21	M20	10
166-51027	<b>CNV-M25-PG21</b>	PG21	M25	10
166-51028	<b>CNV-PG16-PG21</b>	PG21	PG16	10
166-51029	<b>CNV-PG29-PG21</b>	PG21	PG29	2
166-51030	<b>CNV-M40-PG29</b>	PG29	M40	1
166-51031	<b>CNV-PG21-PG29</b>	PG29	PG21	2
166-51032	<b>CNV-PG36-PG29</b>	PG29	PG36	2
166-51033	<b>CNV-M50-PG36</b>	PG36	M50	1
166-51034	<b>CNV-PG29-PG36</b>	PG36	PG29	2
166-51035	<b>CNV-PG42-PG36</b>	PG36	PG42	2
166-51000	<b>CNV-M16-PG7</b>	PG7	M16	10
166-51001	<b>CNV-M20-PG7</b>	PG7	M20	10
166-51002	<b>CNV-PG9-PG7</b>	PG7	PG9	10
166-51003	<b>CNV-PG11-PG7</b>	PG7	PG11	10
166-51004	<b>CNV-PG13-PG7</b>	PG7	PG13.5	10
166-51005	<b>CNV-PG16-PG7</b>	PG7	PG16	10
166-51006	<b>CNV-M16-PG9</b>	PG9	M16	10
166-51007	<b>CNV-M20-PG9</b>	PG9	M20	10
166-51008	<b>CNV-PG7-PG9</b>	PG9	PG7	10
166-51009	<b>CNV-PG11-PG9</b>	PG9	PG11	10
166-51010	<b>CNV-PG13-PG9</b>	PG9	PG13.5	10
166-51011	<b>CNV-PG16-PG9</b>	PG9	PG16	10

All dimensions in mm. Subject to technical changes.

### HelaGuard ConClamp Conduit Clamp

Holds metallic conduits and guides hacksaw for a clean cut.

Technical Table

Article-No.	Type	Pack Cont.
166-51100	<b>CONCLAMP</b>	1

All dimensions in mm. Subject to technical changes.



HelaGuard ConClamp.

### HelaGuard ConCutter Conduit Cutter

Cutting tool for non-metallic-conduits.

Technical Table

Article-No.	Type	Conduit Ø	Pack Cont.
166-51101	<b>CONCUTTER1</b>	for non-metallic conduits up to 34mm	1
166-51102	<b>CONCUTTER2</b>	for non-metallic conduits up to 67mm	1

All dimensions in mm. Subject to technical changes.



HelaGuard ConCutter.



## Appendix

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# Standard Overview



## **DIN EN ISO 9001:2000**

HellermannTyton are accredited to ISO 9001: 2000 for the design, development, manufacture, stockholding and sale of cable management products.



## **DIN EN ISO 14001:2004**

To guarantee adherence to the guidelines of our environmental policy, HellermannTyton have integrated an intensive environmental management system in accordance with DIN EN ISO 14001:2004 into our business strategies.



## **CE**

HellermannTyton products are marked with the CE mark showing that they comply with the essential requirements of the European Low Voltage Directive.



## **IEC EN 61386**

The HelaGuard conduits have been tested to IEC EN 61386, the current and most complete worldwide standard for conduit systems.



## **UR**

Most of HellermannTyton PA6 conduits and fittings have UL (Underwriters Laboratories) recognition for component use within UL listed equipment.



## **UL**

The HellermannTyton LTSUL conduit is UL listed to UL360 and is CSA approved.



## **RoHS**

HellermannTyton products meet the requirements of the European RoHS Directive, Restriction of Hazardous Substances, prohibiting the use of certain hazardous materials found in electrical and electronic products.



## **Rail Certifications**

HellermannTyton products are constantly being tested to the most current rail fire performance standards in Europe. Please contact HellermannTyton for further information.

## Degrees of Protection (IP) according to EN 60529

**Definition of the degrees of protection according to EN 60529**

The levels of protection are indicated by a code made up of two constant letters IP and two characteristic numbers for the degree of protection, e.g. IP54.

**Degree of protection against access and foreign bodies**

First characteristic numeral	Designation	Scope of protection	Second characteristic numeral	Designation	Scope of protection
0	<b>Non-protected</b>	No special protection for persons against direct contact with live or moving parts. No protection of the equipment against ingress of solid foreign objects.	0	<b>Non-protected</b>	No special protection.
1	<b>Protection against large foreign bodies</b>	Protection against accidental contact of large areas with live and internal moving parts, e.g. back of hand, but not protection against deliberate access to the parts. Protection against ingress of solid foreign objects with a diameter greater than 50 mm.	1	<b>Protection against vertically dripping water</b>	Water dripping vertically must cause no damage.
2	<b>Protection against medium-sized foreign bodies</b>	Protection against contact between the finger and live or internal moving parts. Protection against ingress of solid foreign objects with a diameter greater than 12,5 mm.	2	<b>Protection against dripping water (tilted)</b>	Water dripping at an angle of 15° to the vertical from any direction must cause no damage.
3	<b>Protection against small foreign bodies</b>	Protection against contact between live or internal moving parts and tools, wires and the like with a thickness greater than 2,5 mm. Protection against ingress of solid foreign objects with a diameter greater than 2,5 mm.	3	<b>Protection against spraying water</b>	Water dripping at an angle of 60° to the vertical from any direction must cause no damage.
4	<b>Protection against granular foreign objects</b>	Protection against contact between live or internal moving parts and tools, wires and the like with a thickness greater than 1 mm. Protection against ingress of solid foreign objects with a diameter greater than 1 mm.	4	<b>Protection against splashing water</b>	Water that splashes against the equipment from any direction must cause no damage.
5	<b>Protection against dust deposits</b>	Complete protection against contact with live or internal moving parts, protection against hazardous dust deposits. The ingress of dust is not completely prevented, but dust may not penetrate in such quantities as to impair the function.	5	<b>Protection against water jets</b>	A water jet from a nozzle that is directed against the equipment from any direction must cause no damage.
6	<b>Protection against dust entry</b>	Complete protection against contact with live or internal moving parts. Protection against the ingress of dust.	6	<b>Protection against flooding</b>	Water must not penetrate the equipment in hazardous quantities in cases of temporary flooding, e.g. due to heavy seas.
			7	<b>Protection during temporary immersion</b>	Water must not penetrate the equipment in hazardous quantities if the equipment is immersed in water under the specified conditions of pressure and time (1m for 30 min.).
			8	<b>Protection during continuous immersion</b>	Water must not penetrate the equipment in hazardous quantities if the equipment is immersed in water (at least 2 bar for 2 h).
			9k	<b>Protection against high pressure/ steam jet cleaning</b>	Highly pressurised water directed at the enclosure from any direction must cause no damage.

Example: \_\_\_\_\_ First index: Protection against contact and ingress of foreign objects.  
Code IP65  
\_\_\_\_\_ Second index: Protection against liquids.

Chemical Resistance Table

	ASTM NO. 1	ASTM NO. 2	ASTM NO. 3	Acetic acid (10%)	Acetone	Aluminium Chloride	Benzene	Carbon Tetrachloride	Chloroform	Citric acid	Copper Sulphate	cresol	Diesel oil	Diethylamine	Ethanol	Ether	Ethylamine	Ethylene Glycol	Freon 32	Hydrochloric acid (10%)	Hydrochloric acid (30%)	Hydrogen Peroxide (30%)	Hydrogen Peroxide (60%)	Lactic acid	Lubricating oil	Methanol	Methyl Bromide		
HelaGuard Non-Metallic Conduits	HG-SW	++	++	++	+	++	o	++	++	o	++	+	o	++	++	++	++	++	++	++	o	o	o	o	+	++	+	o	
	HG-LW	++	++	++	+	++	o	++	++	o	++	+	o	++	++	++	++	++	++	++	o	o	o	o	+	++	+	o	
	HG-HW	++	++	++	+	++	o	++	++	o	++	+	o	++	++	++	++	++	++	++	o	o	o	o	+	++	+	o	
	HG-FR	++	++	++	+	++	o	++	++	o	++	+	o	++	++	++	++	++	++	++	o	o	o	o	+	++	+	o	
	HG-HI	++	++	++	+	++	+	++	++	o	++	+	o	++	+	+	++	+	++	++	o	o	o	o	+	++	+	o	
	HG-DC	++	++	++	+	++	o	++	++	o	++	+	o	++	++	++	++	++	++	++	o	o	o	o	+	++	+	o	
	PCO *	++	++	++	+	++	o	++	++	o	++	+	o	++	++	++	++	++	++	++	o	o	o	o	+	++	+	o	
	PSC *	o	o	o	+	o	+	o	+	o	++	+	o	+	+	o	+	+	+	+	o	o	+	o	+	+	o	o	
	LSC *	++	++	++	++	o	o	o	+	o	++	++	+	++	+	o	+	+	+	+	+	o	+	o	+	++	o	o	
	HelaGuard Metallic Conduits	SC	++	++	++	o	++	o	++	++	++	++	++	++	++	++	++	++	++	o	o	o	o	o	o	o	++	++	++
SSU		++	++	++	++	++	o	++	++	++	++	++	++	++	++	++	++	++	++	++	o	o	++	++	++	++	++	++	
PCS		o	o	o	+	o	o	o	o	o	++	++	+	+	o	o	o	o	+	+	++	o	++	++	+	+	o	o	
NCS		++	++	++	+	++	o	+	++	o	++	+	o	++	++	++	++	++	++	++	o	o	o	o	+	++	+	o	
LFHCS		+	+	+	++	o	o	o	o	o	++	++	o	o	++	o	o	o	o	++	o	o	o	o	o	++	+	o	o
LTS		++	++	++	++	o	o	o	+	o	++	++	+	++	+	o	+	+	+	+	+	o	+	o	+	++	o	o	
LTSH		++	+	+	++	++	o	o	+	+	++	++	++	++	++	++	++	++	+	++	o	++	++	+	o	+	++	+	
LTSUL		++	++	++	++	o	o	o	+	o	++	++	+	++	+	o	+	+	+	+	+	o	+	o	+	++	o	o	
PCSB		o	o	o	+	o	o	o	o	o	++	++	+	+	o	o	o	o	o	+	+	++	o	o	o	o	+	o	o
SCSB		++	++	++	o	++	o	++	++	++	++	++	++	++	++	++	++	++	++	o	o	o	o	o	o	o	++	++	++
LTSS *	++	++	++	++	o	o	o	+	o	++	++	+	++	+	o	+	+	+	+	+	o	+	o	+	++	o	o		

++ = Good resistance  
 + = Limited resistance  
 o = Poor resistance  
 SS = Suitable with stainless steel fittings

This information apply at 23° C.

These details providing rough guidelines. They should be regarded as material specifications and are no substitute for suitability tests.

\* available upon request

	Methyl Ethyl Ketone	Nitric acid (10%)	Nitric acid (60%)	Oxalic acid	Ozone (Gas)	Paraffin oil	Petrol	Phenol	Sea water	Silver Nitrate	Skydrol®	Sodium Chloride	Sodium Hydroxide (10%)	Sodium Hydroxide (60%)	Sulphur Dioxide (Gas)	Sulphuric acid (10%)	Toluene	Transformer oil	1,1,1-Trichloroethane	Trichloroethylene	Turpentine	Vegetable oil	Vinyl Acetate	Water	White Spirit	Zinc Chloride	
<b>Helaguard Non-Metallic Conduits</b>	HG-SW	++	o	o	+	o	++	++	o	++	++	++	++	++	o	o	++	++	++	+	++	++	+	++	++	o	
	HG-LW	++	o	o	+	o	++	++	o	++	++	++	++	++	o	o	++	++	++	+	++	++	+	++	++	o	
	HG-HW	++	o	o	+	o	++	++	o	++	++	++	++	++	o	o	++	++	++	+	++	++	+	++	++	o	
	HG-FR	++	o	o	+	o	++	++	o	++	++	++	++	++	o	o	++	++	++	+	++	++	+	++	++	o	
	HG-HI	++	o	o	+	o	++	++	o	++	++	++	++	++	+	o	o	++	++	++	o	++	++	+	++	++	o
	HG-DC	++	o	o	+	o	++	++	o	++	++	++	++	++	o	o	++	++	++	+	++	++	+	++	++	o	
	PCO *	++	o	o	+	o	++	++	o	++	++	++	++	++	o	o	++	++	++	+	++	++	+	++	++	o	
	PSC *	o	o	o	+	o	+	o	o	++	++	o	++	++	+	o	o	o	+	o	o	+	+	o	++	+	o
	LSC *	o	+	o	++	+	++	++	+	SS	++	o	SS	++	++	o	o	o	+	o	o	+	++	o	++	+	o
<b>Helaguard Metallic Conduits</b>	SC	++	o	o	o	o	++	++	++	o	o	++	o	o	o	o	++	++	o	o	++	++	o	o	++	o	
	SSU	++	o	o	++	++	++	++	++	SS	++	++	SS	++	+	o	++	++	++	++	++	++	++	++	++	++	++
	PCS	o	++	++	o	+	+	o	o	+	++	o	o	++	+	o	o	o	+	o	o	+	+	o	++	+	++
	NCS	++	o	o	+	o	++	++	o	+	++	++	o	++	++	o	o	++	++	++	+	++	++	+	++	++	o
	LFHCS	o	++	o	++	++	o	o	o	+	++	o	++	++	++	o	o	+	+	+	+	o	+	o	++	o	++
	LTS	o	+	o	++	+	++	++	+	SS	++	o	SS	++	++	o	SS	o	+	o	o	+	++	o	++	+	o
	LTSH	++	++	++	++	+	++	++	++	SS	++	++	SS	++	o	++	SS	o	o	+	o	o	++	++	++	o	++
	LTSUL	o	+	o	++	+	++	++	+	SS	++	o	SS	++	++	o	SS	o	+	o	o	+	++	o	++	+	o
	PCSB	o	o	o	o	o	+	o	o	o	o	o	o	o	o	o	o	o	+	o	o	+	+	o	o	+	o
	SCSB	++	o	o	o	o	++	++	++	o	o	++	o	o	o	o	o	++	++	o	o	++	++	o	o	++	o
	LTSS *	o	+	o	++	+	++	++	+	SS	++	o	SS	++	++	o	SS	o	+	o	o	+	++	o	++	+	o

++ = Good resistance  
 + = Limited resistance  
 o = Poor resistance  
 SS = Suitable with stainless steel fittings

This information apply at 23° C.

These details providing rough guidelines. They should be regarded as material specifications and are no substitute for suitability tests.

\* available upon request

	Compression Resistance	Impact Resistance	Minimum Temperature	Maximum Temperature	Bend Resistance	Electrical Properties
<b>Non-Metallic Conduits</b> based on nominal conduit size 21 mm						
<b>HG-SW</b> PA6 corrugated, standard weight (with HG fittings)	2	4	2	4	4	0
<b>HG-LW</b> PA6 corrugated, light weight (with HG fittings)	2	4	2	4	4	0
<b>HG-HW</b> PA6 corrugated, heavy weight (with HGL fittings)	2	4	2	4	4	0
<b>HG-FR</b> Flame retardant corrugated, standard weight (with HGL fittings)	2	4	2	4	4	0
<b>HG-HI</b> PA12 corrugated, standard weight (with HG fittings)	1	3	5	4	4	0
<b>HG-DC</b> PA6 double slit corrugated	2	4	2	4	4	0
<b>PCO *</b> PA6 large diameter corrugated						
<b>PSC *</b> PVC spiral reinforced						
<b>LSC *</b> smooth, PVC spiral reinforced						
<b>Metallic Conduits</b> based on nominal conduit size 20 mm						
<b>SC</b> galvanised steel	4	4	5	6	4	0
<b>SSC</b> stainless steel	4	4	5	6	4	0
<b>PCS</b> galvanised steel, PVC coated (with compression fittings)	4	4	3	1	4	0
<b>NCS</b> galvanised steel, PA6 coated	4	4	4	4	4	0
<b>LFHCS</b> galvanised steel, LFH coated	4	4	3	1	4	0
<b>LTS</b> galvanised steel, PVC coated, liquid-tight (with compression fittings)	4	4	3	3	4	0
<b>LTSH</b> galvanised steel, thermoplastic rubber, liquid-tight	4	4	5	4	4	0
<b>LTSUL</b> galvanised steel, PVC coated, liquid-tight, UL-listed	4	4	3	3	4	0
<b>PCSB</b> galvanised steel, PVC coated, galvanised steel overbraid	4	4	3	1	4	0
<b>SCSB</b> galvanised steel, galvanised steel overbraid	4	4	5	6	4	0
<b>LTSS *</b> stainless steel, PVC coated, liquid-tight						

\* available upon request

IEC 61386 Classification Key	Compression-Resistance (N)	Impact Resistance (J)	Minimum Temperature (°C)	Maximum Temperature (°C)	Bend Resistance	Electrical Properties
0	-	-	-	-	-	non-declared
1	125	0,5	+5	+60	rigid	conducting
2	320	1	-5	+90	pliable	insulating
3	750	2	-15	+105	pliable, self-recovering	conducting/ insulating
4	1250	6	-25	+120	flexible	-
5	4000	20	-45	+150	-	-
6	-	-	-	+250	-	-
7	-	-	-	+400	-	-

IP Rating against solid objects	IP Rating against water	Corrosion Resistance	Tensile Strength	Resistance to Flame Propagation	Suspended Load Capacity
6	6	-	2	1	0
6	6	-	1	1	0
6	8	-	3	1	0
6	8	-	2	1	0
6	6	-	1	1	0
4	0	-	2	1	0
4	0	1	4	1	0
4	0	4	4	1	0
6	5	2	4	1	0
6	4	2	4	1	0
6	5	2	4	1	0
6	8	4	4	1	0
6	8	4	4	1	0
6	8	4	4	1	0
5	4	2	4	1	0
4	0	1	4	1	0

IP Rating against solid objects	IP Rating against water	Corrosions Resistance	Tensile Strength (N)	Resistance to Flame Propagation	Suspended Load Capacity (N)
-	0	-	-	-	non-declared
-	1	low inside and outside	100	not flame-propagating	20
-	2	medium inside and outside	250	flame-propagating	30
3	3	medium inside, high outside	500	-	150
4	4	high inside and outside	1000	-	450
5	5	-	2500	-	850
6	6	-	-	-	-
7	7	-	-	-	-

## Table of Thread Data

Metric Thread Standard thread conforming to EN 60423			
Thread size	External thread outside diameter (mm)	Internal thread inside diameter (mm)	Pitch (mm)
M12	12,0	10,4	1,5
M16	16,0	11,4	1,6
M20	20,0	18,4	1,7
M25	25,0	23,4	1,8
M32	32,0	30,4	1,9
M40	40,0	38,4	1,10
M50	50,0	48,4	1,11
M63	63,0	61,4	1,12
M75	75,0	73,4	1,13

PG Thread German standard thread conforming to DIN 40430			
Thread size	External thread outside diameter (mm)	Internal thread inside diameter (mm)	Pitch (mm)
PG7	12,5	11,3	1,27
PG9	15,2	13,9	1,41
PG11	18,6	17,3	1,41
PG13,5	20,4	19,1	1,41
PG16	22,5	21,2	1,41
PG21	28,3	26,8	1,59
PG29	37,0	35,5	1,59
PG36	47,0	45,5	1,59
PG42	54,0	52,5	1,59
PG48	59,3	57,8	1,59



## Type A90FM-M16 – HG13-S-M16

Type	Article-No.	Page	Type	Article-No.	Page	Type	Article-No.	Page	Type	Article-No.	Page
A90FM-M16	166-50001	64	ALPA-M40	166-50138	68	CNV-M40-M25	166-50916	70	HG-DC42	166-11806	18
A90FM-M20	166-50002	64	ALPA-M50	166-50139	68	CNV-M40-M32	166-50922	70	HG-DC54	166-11807	18
A90FM-M25	166-50003	64	ALPA-M63	166-50140	68	CNV-M40-PG29	166-51030	71	HG-FR10	166-11400	16
A90FM-M32	166-50004	64	ALPA-PG7	166-50141	68	CNV-M50-M25	166-50917	70	HG-FR13	166-11401	16
A90FM-M40	166-50005	64	ALPA-PG9	166-50142	68	CNV-M50-M32	166-50923	70	HG-FR16	166-11402	16
A90FM-M50	166-50006	64	ALPA-PG11	166-50143	68	CNV-M50-M40	166-50927	70	HG-FR21	166-11403	16
A90FM-PG7	166-50000	64	ALPA-PG13	166-50144	68	CNV-M50-PG36	166-51033	71	HG-FR28	166-11404	16
ACP-M16	166-50400	64	ALPA-PG16	166-50145	68	CNV-M63-M40	166-50928	70	HG-FR34	166-11405	16
ACP-M20	166-50401	64	ALPA-PG21	166-50146	68	CNV-M63-M50	166-50931	70	HG-FR42	166-11406	16
ACP-M25	166-50402	64	ALPA-PG29	166-50147	68	CNV-PG7-M16	166-50901	70	HG-FR54	166-11407	16
ACP-M32	166-50403	64	ALPA-PG36	166-50148	68	CNV-PG7-PG9	166-51008	71	HG-HI13	166-11501	17
ACP-M40	166-50404	64	ALPA-PG42	166-50149	68	CNV-PG9-M16	166-50902	70	HG-HI16	166-11502	17
ACP-M50	166-50405	64	ALPA-PG48	166-50150	68	CNV-PG9-M20	166-50908	70	HG-HI21	166-11503	17
ACP-M63	166-50406	64	ALS-M16	166-50119	67	CNV-PG9-PG7	166-51002	71	HG-HI28	166-11504	17
ACP-M75	166-50407	64	ALS-M20	166-50120	67	CNV-PG9-PG11	166-51014	70	HG-HI34	166-11505	17
AFCP16	166-50700	65	ALS-M25	166-50121	67	CNV-PG11-M16	166-50903	70	HG-HI42	166-11506	17
AFCP20	166-50701	65	ALS-M32	166-50122	67	CNV-PG11-M20	166-50909	70	HG-HI54	166-11507	17
AFCP25	166-50702	65	ALS-M40	166-50123	67	CNV-PG11-PG7	166-51003	71	HG-HW13	166-11302	15
AFCP33	166-50703	65	ALS-M50	166-50124	67	CNV-PG11-PG9	166-51009	71	HG-HW16	166-11303	15
AFC510	166-50600	66	ALS-M63	166-50125	67	CNV-PG11-PG13	166-51019	70	HG-HW21	166-11304	15
AFC512	166-50601	66	ALSS-M16	166-50126	68	CNV-PG13-M16	166-50904	70	HG-HW28	166-11305	15
AFC516	166-50602	66	ALSS-M20	166-50127	68	CNV-PG13-M20	166-50910	70	HG-HW34	166-11306	15
AFC520	166-50603	66	ALSS-M25	166-50128	68	CNV-PG13-PG7	166-51004	71	HG-HW42	166-11307	15
AFC525	166-50604	66	ALSS-M32	166-50129	68	CNV-PG13-PG9	166-51010	71	HG-HW54	166-11308	15
AFC532	166-50605	66	ALSS-M40	166-50130	68	CNV-PG13-PG11	166-51015	70	HG-LW10	166-11200	14
AFC540	166-50606	66	ALSS-M50	166-50131	68	CNV-PG13-PG16	166-51023	71	HG-LW11	166-11201	14
AFC550	166-50607	66	ALSS-M63	166-50132	68	CNV-PG16-M16	166-50905	70	HG-LW13	166-11202	14
AFC563	166-50608	66	AWS-M12	166-50500	69	CNV-PG16-M20	166-50911	70	HG-LW16	166-11203	14
AFC575	166-50609	66	AWS-M16	166-50501	69	CNV-PG16-M25	166-50918	70	HG-LW21	166-11204	14
AFC5S10	166-50610	66	AWS-M20	166-50502	69	CNV-PG16-PG7	166-51005	71	HG-LW28	166-11205	14
AFC5S12	166-50611	66	AWS-M25	166-50503	69	CNV-PG16-PG9	166-51011	71	HG-LW34	166-11206	14
AFC5S16	166-50612	66	AWS-M32	166-50504	69	CNV-PG16-PG11	166-51016	70	HG-LW42	166-11207	14
AFC5S20	166-50613	66	AWS-M40	166-50505	69	CNV-PG16-PG13	166-51020	70	HG-LW54	166-11208	14
AFC5S25	166-50614	66	AWS-M50	166-50506	69	CNV-PG16-PG21	166-51028	71	HG-LW67	166-11209	14
AFC5S32	166-50615	66	AWS-M63	166-50507	69	CNV-PG21-M20	166-50912	70	HG-SW10	166-11100	13
AFC5S40	166-50616	66	AWS-PG7	166-50508	69	CNV-PG21-M25	166-50919	70	HG-SW11	166-11101	13
AFC5S50	166-50617	66	AWS-PG9	166-50509	69	CNV-PG21-M32	166-50924	70	HG-SW13	166-11102	13
ALNPB-M12	166-50100	67	AWS-PG11	166-50510	69	CNV-PG21-PG11	166-51017	70	HG-SW16	166-11103	13
ALNPB-M16	166-50101	67	AWS-PG13	166-50511	69	CNV-PG21-PG13	166-51021	70	HG-SW21	166-11104	13
ALNPB-M20	166-50102	67	AWS-PG16	166-50512	69	CNV-PG21-PG16	166-51024	71	HG-SW28	166-11112	13
ALNPB-M25	166-50103	67	AWS-PG21	166-50513	69	CNV-PG21-PG29	166-51031	71	HG-SW34	166-11118	13
ALNPB-M32	166-50104	67	AWS-PG29	166-50514	69	CNV-PG29-M20	166-50913	70	HG-SW42	166-11113	13
ALNPB-M40	166-50105	67	AWS-PG36	166-50515	69	CNV-PG29-M25	166-50920	70	HG-SW54	166-11114	13
ALNPB-M50	166-50106	67	AWS-PG42	166-50516	69	CNV-PG29-M32	166-50925	70	HG-SW67	166-11109	13
ALNPB-M63	166-50107	67	AWS-PG48	166-50517	69	CNV-PG29-M40	166-50929	70	HG10-90-M12	166-22200	21
ALNPB-M75	166-50108	67	CNV-M16-M20	166-50906	70	CNV-PG29-PG16	166-51025	71	HG10-90-PG7	166-22210	21
ALNPB-PG7	166-50109	67	CNV-M16-PG7	166-51000	71	CNV-PG29-PG21	166-51029	71	HG10-S-M12	166-21000	19
ALNPB-PG9	166-50110	67	CNV-M16-PG9	166-51006	71	CNV-PG29-PG36	166-51034	71	HG10-S-M16	166-21020	19
ALNPB-PG11	166-50111	67	CNV-M16-PG11	166-51012	70	CNV-PG36-M32	166-50926	70	HG10-S-PG7	166-21010	19
ALNPB-PG13	166-50112	67	CNV-M20-M16	166-50900	70	CNV-PG36-M40	166-50930	70	HG10-S-PG9	166-21031	19
ALNPB-PG16	166-50113	67	CNV-M20-M25	166-50914	70	CNV-PG36-PG29	166-51032	71	HG11-90-M12	166-22220	21
ALNPB-PG21	166-50114	67	CNV-M20-PG7	166-51001	71	CNV-PG42-PG36	166-51035	71	HG11-S-M12	166-21021	19
ALNPB-PG29166-50115	67	CNV-M20-PG9	166-51007	71	CONCLAMP	166-51100	72	HG11-S-PG7	166-21032	19	
ALNPB-PG36	166-50116	67	CNV-M20-PG11	166-51013	70	CONCUTTER1	166-51101	72	HG13-90-M16	166-22201	21
ALNPB-PG42	166-50117	67	CNV-M20-PG13	166-51018	70	CONCUTTER2	166-51102	72	HG13-90-PG9	166-22211	21
ALNPB-PG48	166-50118	67	CNV-M20-PG16	166-51022	71	HG-DC11	166-11800	18	HG13-90F-M16	166-22600	28
ALPA-M12	166-50133	68	CNV-M20-PG21	166-51026	71	HG-DC13	166-11801	18	HG13-90F-PG9	166-22608	28
ALPA-M16	166-50134	68	CNV-M25-M20	166-50907	70	HG-DC16	166-11802	18	HG13-90M-M16	166-22500	25
ALPA-M20	166-50135	68	CNV-M25-M32	166-50921	70	HG-DC21	166-11803	18	HG13-90M-PG9	166-22509	25
ALPA-M25	166-50136	68	CNV-M25-PG21	166-51027	71	HG-DC28	166-11804	18	HG13-S-M12	166-21022	19
ALPA-M32	166-50137	68	CNV-M32-M25	166-50915	70	HG-DC34	166-11805	18	HG13-S-M16	166-21001	19

## Type HG13-S-M20 – HGL21-S-PG16

Type	Article-No.	Page	Type	Article-No.	Page	Type	Article-No.	Page	Type	Article-No.	Page
HG13-S-M20	166-21023	19	HG21-45M-PG13	166-23708	26	HG34-90M-M32	166-22505	25	HGL16-45-M20	166-24000	23
HG13-S-PG7	166-21033	19	HG21-45M-PG16	166-23709	26	HG34-90M-PG29	166-22515	25	HGL16-45-PG13	166-24006	23
HG13-S-PG9	166-21011	19	HG21-90-M20	166-22204	21	HG34-S-M32	166-21006	19	HGL16-45F-M20	166-24400	29
HG13-S-PG11	166-21034	19	HG21-90-PG13	166-22227	21	HG34-S-M40	166-21028	19	HGL16-45F-PG11	166-24406	29
HG13-SF-M16	166-21400	27	HG21-90-PG16	166-22214	21	HG34-S-PG29	166-21016	19	HGL16-45F-PG16	166-24407	29
HG13-SF-PG9	166-21408	27	HG21-90F-M20	166-22603	28	HG34-SF-M32	166-21405	27	HGL16-45FL	166-24200	32
HG13-SM-M16	166-21300	24	HG21-90F-PG13	166-22614	28	HG34-SF-PG29	166-21413	27	HGL16-45M-M20	166-24300	26
HG13-SM-PG9	166-21309	24	HG21-90F-PG16	166-22611	28	HG34-SFL	166-21203	30	HGL16-45M-PG9	166-24306	26
HG16-45-M20	166-23400	23	HG21-90FL	166-22401	31	HG34-SM-M32	166-21305	24	HGL16-45M-PG11	166-24307	26
HG16-45-PG13	166-23406	23	HG21-90M-M20	166-22503	25	HG34-SM-PG29	166-21315	24	HGL16-90-M16	166-22801	22
HG16-45F-M20	166-23800	29	HG21-90M-PG13	166-22512	25	HG34-T	166-24804	33	HGL16-90-M20	166-22802	22
HG16-45F-PG11	166-23806	29	HG21-90M-PG16	166-22513	25	HG42-45-M50	166-23404	23	HGL16-90-PG9	166-22820	22
HG16-45F-PG16	166-23807	29	HG21-S-M20	166-21004	19	HG42-45-PG36	166-23411	23	HGL16-90-PG11	166-22809	22
HG16-45FL	166-23600	32	HG21-S-PG13	166-21039	19	HG42-45F-M50	166-23804	29	HGL16-90-PG13	166-22810	22
HG16-45M-M20	166-23700	26	HG21-S-PG16	166-21014	19	HG42-45FL	166-23604	32	HGL16-90F-M16	166-23201	28
HG16-45M-PG9	166-23706	26	HG21-S-PG21	166-21040	19	HG42-45M-M50	166-23704	26	HGL16-90F-M20	166-23202	28
HG16-45M-PG11	166-23707	26	HG21-SF-M20	166-21403	27	HG42-90-M40	166-22207	21	HGL16-90F-PG9	166-23209	28
HG16-90-M16	166-22202	21	HG21-SF-PG16	166-21411	27	HG42-90-M50	166-22223	21	HGL16-90F-PG11	166-23210	28
HG16-90-M20	166-22203	21	HG21-SFL	166-21201	30	HG42-90-PG36	166-22217	21	HGL16-90FL	166-23000	31
HG16-90-PG9	166-22225	21	HG21-SM-M20	166-21303	24	HG42-90F-M40	166-22606	28	HGL16-90M-M16	166-23101	25
HG16-90-PG11	166-22212	21	HG21-SM-PG13	166-21312	24	HG42-90FL	166-22404	31	HGL16-90M-M20	166-23102	25
HG16-90-PG13	166-22213	21	HG21-SM-PG16	166-21313	24	HG42-90M-M40	166-22506	25	HGL16-90M-PG9	166-23109	25
HG16-90F-M16	166-22601	28	HG21-T	166-24802	33	HG42-S-M40	166-21007	19	HGL16-90M-PG11	166-23110	25
HG16-90F-M20	166-22602	28	HG25-90-M25	166-22222	21	HG42-S-M50	166-21029	19	HGL16-S-M16	166-21601	20
HG16-90F-PG9	166-22609	28	HG25-S-M25	166-21026	19	HG42-S-PG36	166-21017	19	HGL16-S-M20	166-21602	20
HG16-90F-PG11	166-22610	28	HG28-45-M25	166-23402	23	HG42-SF-M40	166-21406	27	HGL16-S-PG9	166-21623	20
HG16-90FL	166-22400	31	HG28-45-PG21	166-23409	23	HG42-SFL	166-21204	30	HGL16-S-PG11	166-21609	20
HG16-90M-M16	166-22501	25	HG28-45F-M25	166-23802	29	HG42-SM-M40	166-21306	24	HGL16-S-PG13	166-21610	20
HG16-90M-M20	166-22502	25	HG28-45F-PG21	166-23809	29	HG42-T	166-24805	33	HGL16-S-PG16	166-21624	20
HG16-90M-PG9	166-22510	25	HG28-45FL	166-23602	32	HG54-45-M50	166-23405	23	HGL16-SF-M16	166-22001	27
HG16-90M-PG11	166-22511	25	HG28-45M-M25	166-23702	26	HG54-45F-M50	166-23805	29	HGL16-SF-M20	166-22002	27
HG16-S-M16	166-21002	19	HG28-45M-PG21	166-23710	26	HG54-45M-M50	166-23705	26	HGL16-SF-PG9	166-22010	27
HG16-S-M20	166-21003	19	HG28-90-M25	166-22205	21	HG54-90-M50	166-22208	21	HGL16-SF-PG11	166-22011	27
HG16-S-PG9	166-21035	19	HG28-90-PG21	166-22215	21	HG54-90-M63	166-22224	21	HGL16-SFL	166-21800	30
HG16-S-PG11	166-21012	19	HG28-90F-M25	166-22604	28	HG54-90-PG48	166-22218	21	HGL16-SM-M16	166-21901	24
HG16-S-PG13	166-21013	19	HG28-90F-PG21	166-22612	28	HG54-90F-M50	166-22607	28	HGL16-SM-M20	166-21902	24
HG16-S-PG16	166-21036	19	HG28-90FL	166-22402	31	HG54-90M-M50	166-22507	25	HGL16-SM-PG9	166-21910	24
HG16-SF-M16	166-21401	27	HG28-90M-M25	166-22504	25	HG54-S-M50	166-21008	19	HGL16-SM-PG11	166-21911	24
HG16-SF-M20	166-21402	27	HG28-90M-PG21	166-22514	25	HG54-S-M63	166-21030	19	HGL16-T	166-24900	33
HG16-SF-PG11	166-21409	27	HG28-S-M25	166-21005	19	HG54-S-PG42	166-21042	19	HGL21-45-M20	166-24001	23
HG16-SF-PG16	166-21410	27	HG28-S-M32	166-21027	19	HG54-S-PG48	166-21018	19	HGL21-45-PG13	166-24007	23
HG16-SFL	166-21200	30	HG28-S-PG21	166-21015	19	HG54-SF-M50	166-21407	27	HGL21-45-PG16	166-24008	23
HG16-SM-M16	166-21301	24	HG28-S-PG29	166-21041	19	HG54-SM-M50	166-21307	24	HGL21-45F-M20	166-24401	29
HG16-SM-M20	166-21302	24	HG28-SF-M25	166-21404	27	HG67-90-M63	166-22209	21	HGL21-45F-PG16	166-24408	29
HG16-SM-PG9	166-21310	24	HG28-SF-PG21	166-21412	27	HG67-90-PG48	166-22219	21	HGL21-45FL	166-24201	32
HG16-SM-PG11	166-21311	24	HG28-SFL	166-21202	30	HG67-90M-M63	166-22508	25	HGL21-45M-M20	166-24301	26
HG16-T	166-24800	33	HG28-SM-M25	166-21304	24	HG67-S-M63	166-21009	19	HGL21-45M-PG13	166-24308	26
HG18-90-PG13	166-22226	21	HG28-SM-PG21	166-21314	24	HG67-S-PG48	166-21019	19	HGL21-45M-PG16	166-24309	26
HG18-S-M20	166-21024	19	HG28-T	166-24803	33	HG67-SM-M63	166-21308	24	HGL21-90-M20	166-22803	22
HG18-S-PG13	166-21037	19	HG34-45-M32	166-23403	23	HGL13-90-M16	166-22800	22	HGL21-90-PG13	166-22821	22
HG18-S-PG16	166-21038	19	HG34-45-PG29	166-23410	23	HGL13-90-PG9	166-22808	22	HGL21-90-PG16	166-22811	22
HG20-90-M20	166-22221	21	HG34-45F-M32	166-23803	29	HGL13-90F-M16	166-23200	28	HGL21-90F-M20	166-23203	28
HG20-S-M20	166-21025	19	HG34-45F-PG29	166-23810	29	HGL13-90F-PG9	166-23208	28	HGL21-90F-PG13	166-23211	28
HG20-T	166-24801	33	HG34-45FL	166-23603	32	HGL13-90M-M16	166-23100	25	HGL21-90F-PG16	166-23212	28
HG21-45-M20	166-23401	23	HG34-45M-M32	166-23703	26	HGL13-90M-PG9	166-23108	25	HGL21-90FL	166-23001	31
HG21-45-PG13	166-23407	23	HG34-45M-PG29	166-23711	26	HGL13-S-M16	166-21600	20	HGL21-90M-M20	166-23103	25
HG21-45-PG16	166-23408	23	HG34-90-M32	166-22206	21	HGL13-S-PG9	166-21608	20	HGL21-90M-PG13	166-23111	25
HG21-45F-M20	166-23801	29	HG34-90-PG29	166-22216	21	HGL13-SF-M16	166-22000	27	HGL21-90M-PG16	166-23112	25
HG21-45F-PG16	166-23808	29	HG34-90F-M32	166-22605	28	HGL13-SF-PG9	166-22009	27	HGL21-S-M20	166-21603	20
HG21-45FL	166-23601	32	HG34-90F-PG29	166-22613	28	HGL13-SM-M16	166-21900	24	HGL21-S-PG13	166-21625	20
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HGL21-SF-PG13	166-22012	27	HGL42-90-PG36	166-22814	22	LTS20-FMC-PG16	166-32213	52	PAEC28	166-50802	69
HGL21-SF-PG16	166-22013	27	HGL42-90F-M40	166-23206	28	LTS20-LTS20	166-32600	54	PAEC34	166-50803	69
HGL21-SFL	166-21801	30	HGL42-90FL	166-23004	31	LTS20-SMC-M20	166-32303	52	PAEC42	166-50804	69
HGL21-SM-M20	166-21903	24	HGL42-90M-M40	166-23106	25	LTS25	166-31904	49	PAEC54	166-50805	69
HGL21-SM-PG13	166-21912	24	HGL42-S-M40	166-21606	20	LTS25-45FMC-M25	166-32502	53	PCS10	166-30700	41
HGL21-SM-PG16	166-21913	24	HGL42-S-M50	166-21621	20	LTS25-90FMC-M25	166-32404	53	PCS10-90FMC-M16	166-31600	47
HGL21-T	166-24901	33	HGL42-S-PG36	166-21614	20	LTS25-EI	166-32704	54	PCS10-EI	166-31800	48
HGL28-45-M25	166-24002	23	HGL42-SF-M40	166-22006	27	LTS25-FMC-M25	166-32207	52	PCS10-FM-M12	166-31000	44
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HGL28-45F-M25	166-24402	29	HGL42-SM-M40	166-21906	24	LTS25-LTS25	166-32601	54	PCS10-FMC-M12	166-31400	46
HGL28-45F-PG21	166-24409	29	HGL42-T	166-24904	33	LTS25-SMC-M25	166-32304	52	PCS10-PC	166-31200	45
HGL28-45FL	166-24202	32	HGL54-45-M50	166-24005	23	LTS32	166-31905	49	PCS10-SM-M12	166-31100	44
HGL28-45M-M25	166-24302	26	HGL54-45F-M50	166-24405	29	LTS32-45FMC-M32	166-32503	53	PCS10-SM-PG7	166-31110	44
HGL28-45M-PG21	166-24310	26	HGL54-45M-M50	166-24305	26	LTS32-90FMC-M32	166-32405	53	PCS12	166-30701	41
HGL28-90-M25	166-22804	22	HGL54-90-M50	166-22807	22	LTS32-EI	166-32705	54	PCS12-90FMC-M16	166-31601	47
HGL28-90-PG21	166-22812	22	HGL54-90-M63	166-22819	22	LTS32-FMC-M32	166-32208	52	PCS12-EI	166-31801	48
HGL28-90F-M25	166-23204	28	HGL54-90-PG48	166-22815	22	LTS32-FMC-PG29	166-32215	52	PCS12-FM-M16	166-31001	44
HGL28-90F-PG21	166-23213	28	HGL54-90F-M50	166-23207	28	LTS32-SMC-M32	166-32305	52	PCS12-FM-PG7	166-31013	44
HGL28-90FL	166-23002	31	HGL54-90M-M50	166-23107	25	LTS40	166-31906	49	PCS12-FM-PG9	166-31011	44
HGL28-90M-M25	166-23104	25	HGL54-S-M50	166-21607	20	LTS40-45FMC-M40	166-32504	53	PCS12-FMC-M16	166-31401	46
HGL28-90M-PG21	166-23113	25	HGL54-S-M63	166-21622	20	LTS40-90FMC-M40	166-32406	53	PCS12-PC	166-31201	45
HGL28-S-M25	166-21604	20	HGL54-S-PG42	166-21628	20	LTS40-EI	166-32706	54	PCS12-SM-M16	166-31101	44
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HGL28-SM-M25	166-21904	24	LFHCS16	166-30901	43	LTS63	166-31908	49	PCS16-FF-M20	166-31300	45
HGL28-SM-PG21	166-21914	24	LFHCS20	166-30902	43	LTS63-45FMC-M63	166-32506	53	PCS16-FM-M16	166-31002	44
HGL28-T	166-24902	33	LFHCS25	166-30903	43	LTS63-90FMC-M63	166-32408	53	PCS16-FM-M20	166-31003	44
HGL34-45-M32	166-24003	23	LFHCS32	166-30904	43	LTS63-EI	166-32708	54	PCS16-FM-PG11	166-31012	44
HGL34-45-PG29	166-24010	23	LFHCS40	166-30905	43	LTS63-FMC-M63	166-32211	52	PCS16-FMC-M16	166-31402	46
HGL34-45F-M32	166-24403	29	LFHCS50	166-30906	43	LTSH12	166-32001	50	PCS16-FMC-M20	166-31403	46
HGL34-45F-PG29	166-24410	29	LFHCS63	166-30907	43	LTSH16	166-32002	50	PCS16-FMC-PG11	166-31409	46
HGL34-45FL	166-24203	32	LFHCS75	166-30908	43	LTSH20	166-32003	50	PCS16-PC	166-31202	45
HGL34-45M-M32	166-24303	26	LTS10	166-31900	49	LTSH25	166-32004	50	PCS16-SM-M16	166-31102	44
HGL34-45M-PG29	166-24311	26	LTS10-EI	166-32700	54	LTSH32	166-32005	50	PCS16-SM-M20	166-31103	44
HGL34-90-M32	166-22805	22	LTS10-FMC-M12	166-32200	52	LTSH40	166-32006	50	PCS16-SM-PG11	166-31112	44
HGL34-90-PG29	166-22813	22	LTS10-FMC-M16	166-32201	52	LTSH50	166-32007	50	PCS16-SMC-M16	166-31501	46
HGL34-90F-M32	166-23205	28	LTS12	166-31901	49	LTSUL16	166-32100	51	PCS16-SMC-M20	166-31502	46
HGL34-90F-PG29	166-23214	28	LTS12-90FMC-M16	166-32400	53	LTSUL20	166-32101	51	PCS20	166-30703	41
HGL34-90FL	166-23003	31	LTS12-EI	166-32701	54	LTSUL25	166-32102	51	PCS20-90FMC-M20	166-31604	47
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HGL34-90M-PG29	166-23114	25	LTS12-FMC-M16	166-32203	52	LTSUL40	166-32104	51	PCS20-FF-M20	166-31301	45
HGL34-S-M32	166-21605	20	LTS12-SMC-M16	166-32300	52	LTSUL50	166-32105	51	PCS20-FM-M20	166-31004	44
HGL34-S-M40	166-21620	20	LTS16	166-31902	49	LTSUL63	166-32106	51	PCS20-FM-PG16	166-31014	44
HGL34-S-PG29	166-21613	20	LTS16-45FMC-M20	166-32500	53	NCS16	166-30801	42	PCS20-FMC-M20	166-31404	46
HGL34-SF-M32	166-22005	27	LTS16-90FMC-M16	166-32401	53	NCS20	166-30802	42	PCS20-FMC-PG16	166-31410	46
HGL34-SF-PG29	166-22015	27	LTS16-90FMC-M20	166-32402	53	NCS25	166-30803	42	PCS20-PC	166-31203	45
HGL34-SFL	166-21803	30	LTS16-EI	166-32702	54	NCS32	166-30800	42	PCS20-PCS20	166-31700	47
HGL34-SM-M32	166-21905	24	LTS16-FMC-M16	166-32204	52	PACC10	166-25707	65	PCS20-SM-M20	166-31104	44
HGL34-SM-PG29	166-21915	24	LTS16-FMC-M20	166-32205	52	PACC13	166-25700	65	PCS20-SM-PG13	166-31113	44
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HGL42-45-PG36	166-24011	23	LTS16-SMC-M20	166-32302	52	PACC28	166-25703	65	PCS25	166-30704	41
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PCS25-FMC-M25	166-31405	46	PCSB16-SMC-M16	166-34200	58	SC16-PC	166-30502	40	SCSB20-FM-M20	166-34603	60
PCS25-FMC-PG21	166-31411	46	PCSB16-SMC-M20	166-34201	58	SC16-SM-M16	166-30402	39	SCSB20-FM-PG16	166-34609	60
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PCS25-PCS25	166-31701	47	PCS20-90FMC-M20	166-34302	58	SC16-SM-PG11	166-30412	39	SCSB20-SM-M20	166-34703	60
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PCS25-SM-PG21	166-31115	44	PCS20-FM-PG16	166-33810	56	SC20-FF-M20	166-30601	40	SCSB25	166-34403	59
PCS25-SMC-M25	166-31504	46	PCS20-FMC-M20	166-34102	57	SC20-FM-M20	166-30304	38	SCSB25-FM-M25	166-34604	60
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PCS32-90FMC-M32	166-31606	47	PCS20-PC	166-34002	57	SC20-PC	166-30503	40	SCSB25-PC	166-34803	61
PCS32-EI	166-31805	48	PCS20-SM-M20	166-33903	56	SC20-SM-M20	166-30404	39	SCSB25-SM-M25	166-34704	60
PCS32-FF-M32	166-31303	45	PCS20-SM-PG16	166-33910	56	SC20-SM-PG13	166-30413	39	SCSB25-SM-PG21	166-34710	60
PCS32-FM-M32	166-31006	44	PCS20-SMC-M20	166-34202	58	SC20-SM-PG16	166-30414	39	SCSB32	166-34404	59
PCS32-FM-PG29	166-31016	44	PCS25	166-33603	55	SC25	166-30104	36	SCSB32-FM-M32	166-34605	60
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PCS32-FMC-PG29	166-31412	46	PCS25-FM-M25	166-33804	56	SC25-FM-M25	166-30305	38	SCSB32-PC	166-34804	61
PCS32-PC	166-31205	45	PCS25-FM-PG21	166-33811	56	SC25-FM-PG21	166-30316	38	SCSB32-SM-M32	166-34705	60
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PCS40-EI	166-31806	48	PCS25-SM-PG21	166-33911	56	SC32-FF-M32	166-30603	40	SCSB40-PC	166-34805	61
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PCSB12-SM-M16	166-33900	56	SC10-PC	166-30500	40	SCSB12	166-34400	59			
PCSB12-SM-PG9	166-33908	56	SC10-SM-M12	166-30400	39	SCSB12-FM-M16	166-34600	60			
PCSB16	166-33601	55	SC10-SM-PG7	166-30410	39	SCSB12-FM-PG9	166-34607	60			
PCSB16-90FMC-M16	166-34300	58	SC12	166-30101	36	SCSB12-PC	166-34800	61			
PCSB16-90FMC-M20	166-34301	58	SC12-FM-M16	166-30301	38	SCSB12-SM-M16	166-34700	60			
PCSB16-FM-M16	166-33801	56	SC12-FM-PG7	166-30312	38	SCSB12-SM-PG9	166-34707	60			
PCSB16-FM-M20	166-33802	56	SC12-FM-PG9	166-30313	38	SCSB16	166-34401	59			
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166-30902	LFHCS20	43	166-31401	PCS12-FMC-M16	46	166-32203	LTS12-FMC-M16	52	166-33808	PCSB12-FM-PG9	56
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