

Progress®

电缆接头用于铁路车辆 通过EN45545认证

Progress®
Certified cable glands for rolling stock,
according to EN 45545

为了您的旅行安全
For a safe journey.



EN 45545-2
HL 3

EN 45545-3
E30

 **AGRO**
... your quality-connection



AGRO Progress® 铁路车辆的理想解决方案

AGRO Progress® 金属电缆接头可以放心地使用在任何铁路车辆应用中，并且通过相关认证。

卓越的Progress® 压紧技术保证即使在动态应用中也保持可靠的密封，并对电缆提供优越的应力消除保护。丰富的产品系列包括标准电缆接头、EMC屏蔽电缆接头以及各类附件可以满足所有的应用。我们可以根据您的任何要求提供通过相关认证的解决方案。

根据EN 45545-2 测试的最佳结果

Progress® 电缆接头的密封件是由通过Hazard Level 3 认证的特殊TPE材料制成。

我们的产品测试结果超出了Hazard Level 3的规定值，无论是室内环境还是室外应用。

AGRO Progress® - the ideal solution for rolling stock

AGRO Progress® metal cable glands can be used with confidence for any rolling stock application, in any arrangement, as has been recently certified.

The outstanding Progress® compression technology ensures tight seals and offers cables exceptional damage-preventing strain relief, even in dynamic applications. A comprehensive range of standard and EMC cable glands and accessories offers a solution for almost any application. Where the need arises, AGRO also delivers certified solutions according to customer requirements.

Best results in testing according to EN 45545-2 (Components)

The seal inserts of Progress® cable glands are made from a special TPE and certified to the demanding **Hazard Level 3**.

The stipulated values for Hazard Level 3 were exceeded, for both indoor and outdoor areas:

	HL 3 规定 (室外) Requirement for HL 3 outdoor	HL 3 规定 (室内) Requirement for HL 3 indoor	AGRO 测试结果 AGRO result
氧气指数 Oxygen index	Min. 32%	Min. 32%	39%
烟气密度Ds Smoke gas density Ds	Max. 300	Max. 150	110
毒性 CIT Toxicity CIT	Max. 1,5	Max. 0,75	0.16

电缆接头通过铁路车辆认证

Cable glands certified for rolling stock applications

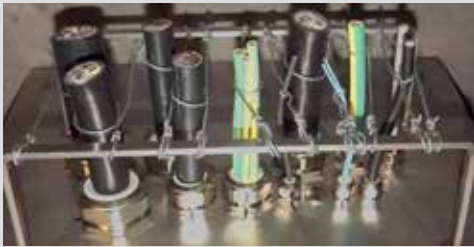


材质: 黄铜镀镍
 密封件材料: 特殊 AGRO TPE
 密封件颜色: 浅灰色 RAL 7035
 螺纹: M12 至 M63
 Pg 7 至 Pg48
 温度范围: -50°C / +105°C
 防护等级: IP 68 / IP 69 K
 其他标准: EN 50262 / IEC 62444

Material: Nickel-plated brass
 Material sealing insert: Special AGRO TPE
 Colour sealing insert: Light grey RAL 7035
 Threads: M12 to M63
 Pg 7 to Pg48
 Temperature range: -50°C / +105°C
 Protection class: IP 68 / IP 69 K
 Further norms: EN 50262 / IEC 62444

EN 45545-2

HL 3



起始状况 | Initial situation



10 分钟后 | After 10 minutes



20 分钟后 | After 20 minutes



30 分钟后 | After 30 minutes



35 分钟后 | After 35 minutes



44 分钟后 | After 44 minutes

高于EN 45545-3要求！

EN 45545-3 明确了防火隔离带的阻燃要求，目的是通过规定材料和零件的性能来限制火势扩散。如果电缆通过防火隔离带，那么电缆接头也必须符合相应要求。

为了确定是否达到要求的阻燃性能，零件必须在测试腔中通过绝缘和扩散测试。

AGRO Progress® 金属电缆接头轻松通过EN 45545-3测试并且达到很高的 E30等级，这个结果表明密封件可以保持不渗透、防止火势扩散至少30分钟，不断裂。从阻燃性能方面，AGRO电缆接头在铁路车辆的应用中是没有任何担心的。

Exceeding the demands of EN 45545-3!

EN 45545-3 defines the requirements for fire resistance of fire barriers. The aim of EN 45545-3 is to limit fire spread by specifying the performance of materials and components. If cables are routed through fire barriers, the requirements apply also to the cable glands used.

In order to establish whether or not the required fire resistance is achieved, components are tested in a testing furnace with respect to requirements for fire barrier, thermal insulation and radiation emission.

AGRO Progress® metal cable glands easily exceed the requirements of EN 45545-3 and satisfy the very high demands of fire resistance class E30. This means that the seal inserts remain impervious and prevent the spread of fire through the gland for at least 30 minutes. They do not crack or fissure. From a fire protection perspective, they can be used without hesitation in all railway vehicles.



EN 45545-3
E30

	垂直安装 Vertical installation	水平安装 Horizontal installation	等级 Classification
AGRO 测试结果 AGRO Result	44 min	41 min	E30

测试使用AGRO Progress® 黄铜镀镍电缆接头带特殊AGRO TPE密封件，螺纹 M16 至 M50,适用于多根电缆，带锁紧堵头。

Fire testing was carried out using AGRO Progress® nickel-plated brass cable glands and seal inserts of Special AGRO TPE, sizes M16 to M50, and with multi-cable glands and locking screws.

用于专业电缆接入的系统和解决方案。

Systems and solutions for professional cable entry.



Progress® 金属或尼龙电缆接头是经过验证用于各种工业领域专业电缆接入的解决方案。其出色的压紧技术确保密封和电缆应力消除保护。

Progress® cable glands made of plastic or metal are proven devices for professional cable routing in industrial plants. The excellent compression technology ensures tight seals and strain relief which is exceptionally easy on cables.



Progress® EMC 黄铜电缆接头确保电缆屏蔽编织层和金属外壳之间保持低阻抗连接，同时保证电缆的安全接入。

Progress® EMC cable glands made of brass ensure a low-impedance connection between the braided shield and the metal chassis while maintaining secure cable routing.



带法兰和不带法兰的弯接头用于接入机柜和外壳时改变方向。

Flanged and unflanged elbows for changes of direction on entering switching cabinets and housings.



附件：锁紧螺母，缩减接头，锁紧堵头，

Accessories: locknuts, reduction fittings, locking screws, ...



AGROflex 聚酯和聚酰胺编织套管用于捆绑和覆盖电线电缆。

AGROflex Braided sleeves made of polyester and polyamide for bundeling and sheathing of electrical lines.

技术信息和告知

如需了解产品、系统解决方案和媒体咨询等详细信息，请访问我公司网站：

www.agro.ch | www.agro-electrical.cn

中文我们的技术人员也非常乐意为您提供技术支持。请联系我们。

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Technical information and advice

Further information about products, system solutions and communication media can be found on our website: www.agro.ch

Our technical staff will also be happy to assist in case of any question

or need for information. We look forward to hearing from you.

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